

CASIO®

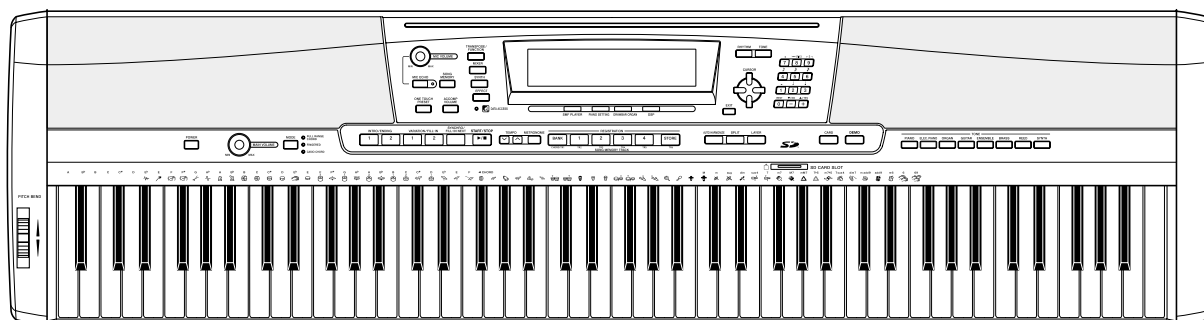
Service Manual

(without price)

PX-410R

PX-575R (For US)

AUG. 2006



PX-410R

ELECTRONIC KEYBOARD

Ver.1 : Sep. 2006

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SPECIFICATIONS

GENERAL

Keyboard:

Tones:

88 keys with touch response (Off/1/2/3)
400 Advanced Tones + 200 Preset Tones + 20 Drum Sets + 100 standard user tones + 20 user tones with waves*1 + 4 user drum sets with wave*1 + 50 drawbar organ tones + 100 user drawbar organ tones (894 tones total); layer/split

Polyphony:

Drawbar Organ Function

Drawbars:

Percussion:

Click:

Effects:

32 notes maximum (10 for certain tones)

9 (16', 5 1/3', 8', 4', 2 2/3', 2', 1 3/5', 1 1/3', 1')

Second, Third

On, Off

DSP (200 types: internal, 100 user areas) + Reverb (16 types) + Chorus (16 types) + Equalizer (10 types, 4 bands)

Auto Accompaniment

Rhythm Patterns:

Tempo:

Chords:

Rhythm Controller:

Accomp Volume:

One-touch Presets:

Auto Harmonize:

Metronome:

182 (internal, 16 user areas*1)

Variable (226 steps, ♩ = 30 to 255)

3 fingering methods (CASIO CHORD, FINGERED, FULL RANGE CHORD)

START/STOP, INTRO/ENDING 1 and 2, VARIATION/FILL-IN 1 and 2, SYNCHRO/FILL-IN NEXT

0 to 127 (128 steps)

Recalls settings for tone, tempo, layer on/off, and harmonize on/off in accordance with rhythm.

10 types

Time Signatures: 0, 2, 3, 4, 5, 6

Memory Function

Songs:

Recording Tracks:

Recording Methods:

Memory Capacity:

Edit Function:

Demo Tunes:

5

6 (2 through 6 are melody tracks)

Real-time, step

Approximately 10,000 notes (total for 5 songs)

Equipped

3

Tune Number	Name	Composer
0	Toboggan Run	TECH-NOTE INTERNATIONAL LTD.
1	Snow-water	Akiko Fujimoto
2	Malibu Sun	TECH-NOTE INTERNATIONAL LTD.

Synthesizer Function

Parameters:

Attack time; release time; resonance; cutoff frequency; vibrato type; vibrato delay; vibrato depth; vibrato rate; octave shift; level; touch sense; reverb send; chorus send; DSP line; DSP type; DSP parameter

Registration Memory

Number of Setups:

Memory Contents:

32 (4 setups × 8 banks)

Tone, Rhythm, Tempo, Layer on/off, Split on/off, Split point, Harmonize on/off, Mixer settings (Channels 1 to 10), Effect settings, Touch Response settings, Soft/sostenuto pedal jack setting, Transpose, Tuning, Accompaniment volume setting, Pitch bend range, Auto Harmonize type, MODE button setting, Synchro standby state, Mixer Hold, DSP Hold, Synthesizer Mode parameters

Mixer Function

Channels:

Parameters:

16

Tone; part on/off; volume; pan pot; octave shift; coarse tune; fine tune; reverb send; chorus send; DSP line; DSP level, DSP pan, DSP system reverb send, DSP system chorus send

MIDI:

16 multi-timbre receive, GM Level 1 standard

*1 The same memory area is used to store waveform data, accompaniment data, and SMF data.

Other Functions

Pitch Bend Range: Adjustable (12 semitones upwards and downwards)
Transpose: 49 steps (-24 semitones to +24 semitones)
Tuning: Variable (A4 = approximately 440Hz \pm 100 cents)
LCD: Adjustable contrast

SMF Player:

Supported Format: SMF0

Flash Memory

Capacity: 4MB*²
Shared Area: Approximately 3.5MB*² (waveform data, accompaniment data, SMF data)
Further storage of waveform, accompaniment, and SMF data becomes impossible after the total of such data reaches approximately 3.5MB.

SD Memory Cards

Supported SD Memory Cards: 1GB or less (Cards with capacity greater than 1 GB are not supported.)
Functions: Save and load of data; playback of SMF; card formatting; file delete; file rename

Pedals:

Damper, Soft/Sostenuto (Selectable)

Terminals

SD CARD SLOT
USB port: TYPE B
Headphones: Stereo standard jacks \times 2
Output Impedance: 170
Output Voltage: 6.0V (RMS) MAX
Pedal: Standard jacks \times 2
Power: 12V DC
Microphone In: Standard jack (with microphone volume knob)
Input impedance: 3.3K
Input sensitivity: 10mV
Pedal connector
(for optional SP-30 only)

Speakers: (16cm \times 8cm OVAL) \times 2 + \varnothing 5cm \times 2 (Output: 8.0W + 8.0W)

Power Supply: AC Adaptor: AD-12

Power Consumption: 12V \sim 18W

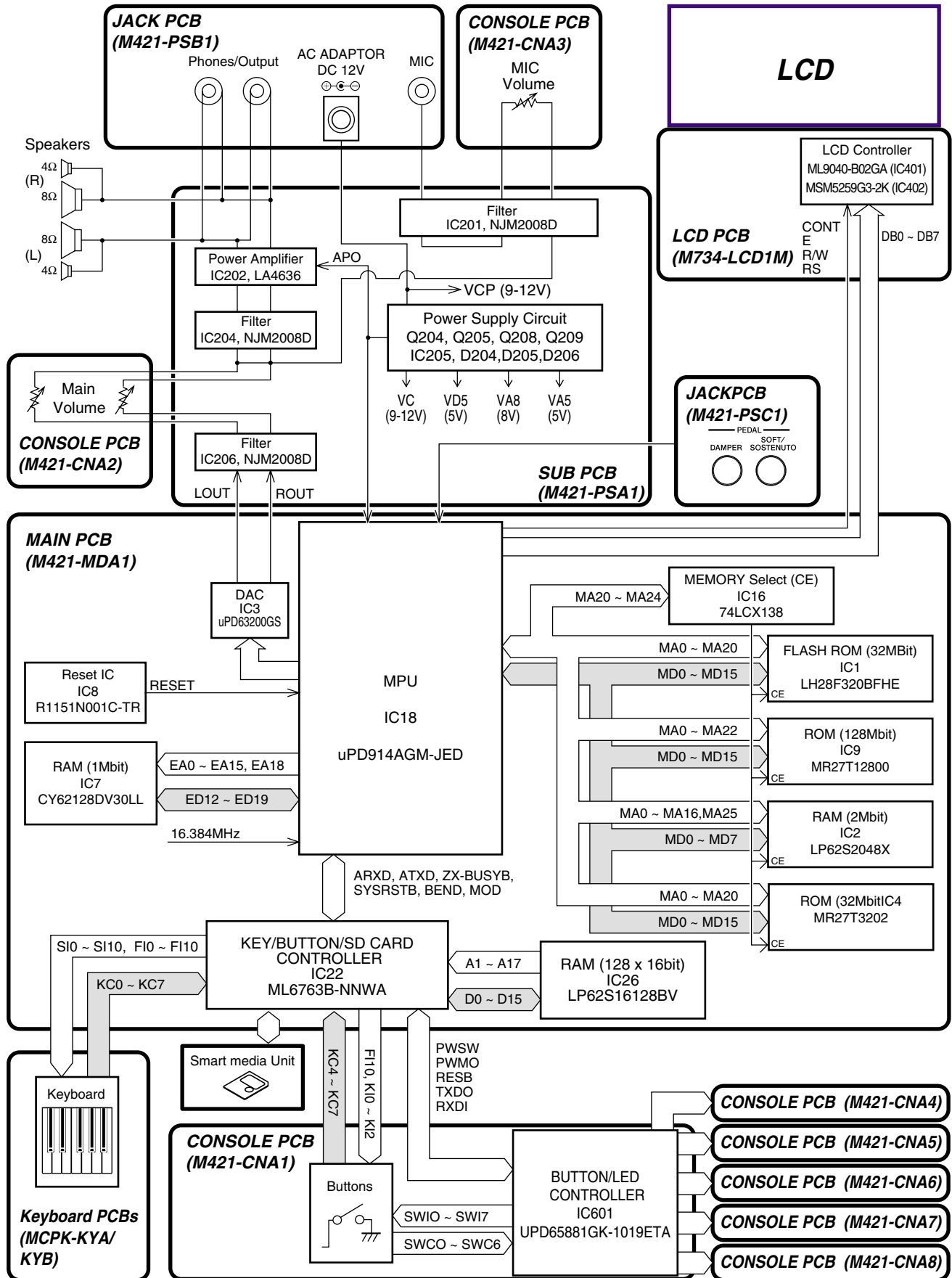
Dimensions: 134.4 \times 34.9 \times 15.5cm (52¹⁵/₁₆ \times 13³/₄ \times 6¹/₈ inch)

Weight: Approximately 16.7 kg (36.8 lbs)

*¹ The same memory area is used to store waveform data, accompaniment data, and SMF data.

*² Noted capacities are calculated values based on 1MB = 1024 \times 2 bytes.

BLOCK DIAGRAM

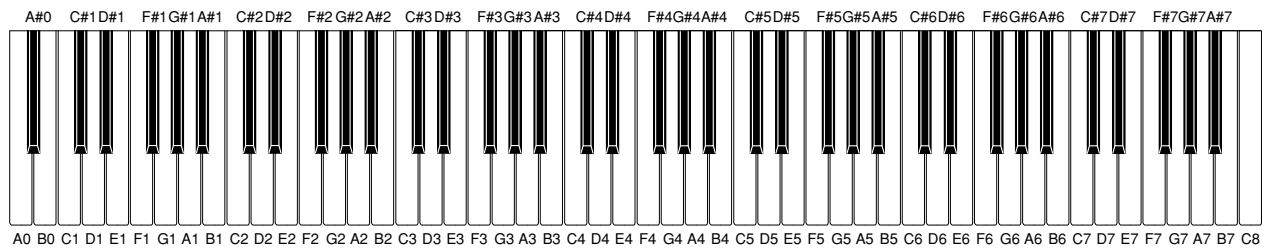


CIRCUIT DESCRIPTION

KEY MATRIX

	KC0	KC1	KC2	KC3	KC4	KC5	KC6	KC7
FI0	A0①	A0#①	B0①	C1①	C1#①	D1①	D1#①	E1①
SI0	A0②	A0#②	B0②	C1②	C1#②	D1②	D1#②	E1②
FI1	F1①	F1#①	G1①	G1#①	A1①	A1#①	B1①	C2①
SI1	F1②	F1#②	G1②	G1#②	A1②	A1#②	B1②	C2②
FI2	C2#①	D2①	D2#①	E2①	F2①	F2#①	G2①	G2#①
SI2	C2#②	D2②	D2#②	E2②	F2②	F2#②	G2②	G2#②
FI3	A2①	A2#①	B2①	C3①	C3#①	D3①	D3#①	E3①
SI3	A2②	A2#②	B2②	C3②	C3#②	D3②	D3#②	E3②
FI4	F3①	F3#①	G3①	G3#①	A3①	A3#①	B3①	C4①
SI4	F3②	F3#②	G3②	G3#②	A3②	A3#②	B3②	C4②
FI5	C4#①	D4①	D4#①	E4①	F4①	F4#①	G4①	G4#①
SI5	C4#②	D4②	D4#②	E4②	F4②	F4#②	G4②	G4#②
FI6	A4①	A4#①	B4①	C5①	C5#①	D5①	D5#①	E5①
SI6	A4②	A4#②	B4②	C5②	C5#②	D5②	D5#②	E5②
FI7	F5①	F5#①	G5①	G5#①	A5①	A5#①	B5①	C6①
SI7	F5②	F5#②	G5②	G5#②	A5②	A5#②	B5②	C6②
FI8	C6#①	D6①	D6#①	E6①	F6①	F6#①	G6①	G6#①
SI8	C6#②	D6②	D6#②	E6②	F6②	F6#②	G6②	G6#②
FI9	A6①	A6#①	B6①	C7①	C7#①	D7①	D7#①	E7①
SI9	A6②	A6#②	B6②	C7②	C7#②	D7②	D7#②	E7②
FI10	F7①	F7#①	G7①	G7#①	A7①	A7#①	B7①	C8①
SI10	F7②	F7#②	G7②	G7#②	A7②	A7#②	B7②	C8②

NOMENCLATURE OF KEYS



BUTTON MATRIX

	SI0	SI1	SI2	SI3	SI4	SI5	SI6	SI7
SC0	MODE	POPS	DANCE/ FUNK	ROCK	JAZZ	EUROPEAN	LATIN	
SC1	INTRO	NORMAL/ FILL-IN	VARIATION/ FILL-IN	SYNCHRO/ ENDING	START/ STOP	VARIOUS	SONG MEMORY	
SC2	TEMPO ▽	TEMPO Δ	AUTO HARMONIZE	ONE TOUCH PRESET	METRONOME	FOR PIANO	TRACK (SW651)	PIANO (MUSIC LIBRARY)
SC3	BANK	1	2	3	4	STORE	SONG/ USER	CARD
SC4	SPLIT	LAYER	CARD FUNCTION	EXECUTE	PIANO	GUITAR	BRASS	SYNTH- LEAD
SC5	ECHO	SING ALONG	TRANPOSE/ KEY CONTROL ▽	TRANPOSE/ KEY CONTROL Δ	E.PIANO	BASS	REED	SYNTH- PAD
SC6	PLAY/ STOP (SW646)	ACCOMP/ SONG VOLUME	REVERB/ CHORUS	SETTING	ORGAN	STRINGS	PIPE	GM TONES

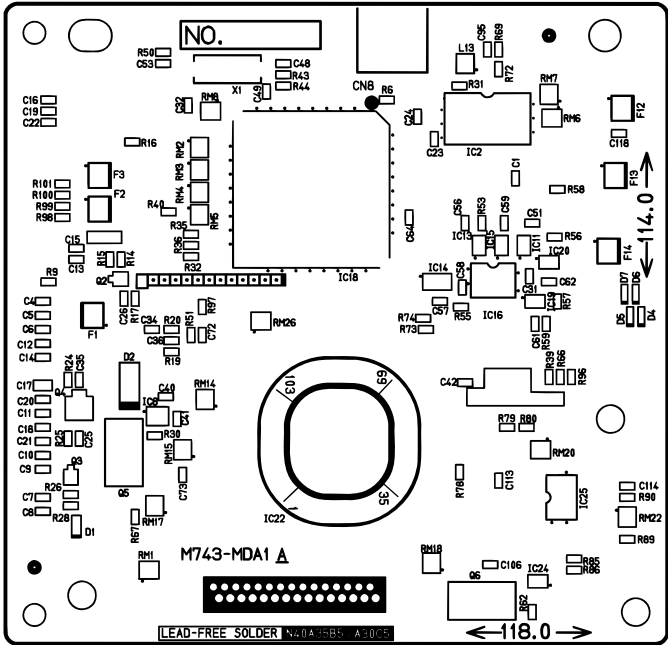
KEY LED MATRIX

	LH25	LH24	LH23	LH22	LH21	LH20	LH19	LH18
LL0	ECHOSING	REVERB	FULL RANGE CHORD	START/ STOP	TEMPO 2 (D615)	CARD FUNCTION	POPS	JAZZ
LL1	ALONG	CHORUS	FINGERED	PLAY/ STOP (D611)	TEMPO 3 (D617)	SPLIT	DANCE/ FUNK	EUROPEAN
LL2		REPEAT	CASIO CHORD	TEMPO 1 (D613)	TEMPO 4 (D618)	LAYER	ROCK	LATIN

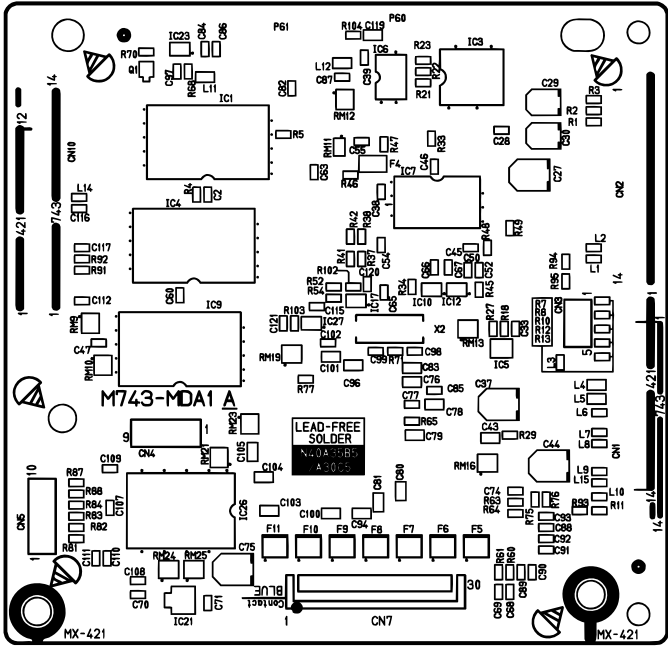
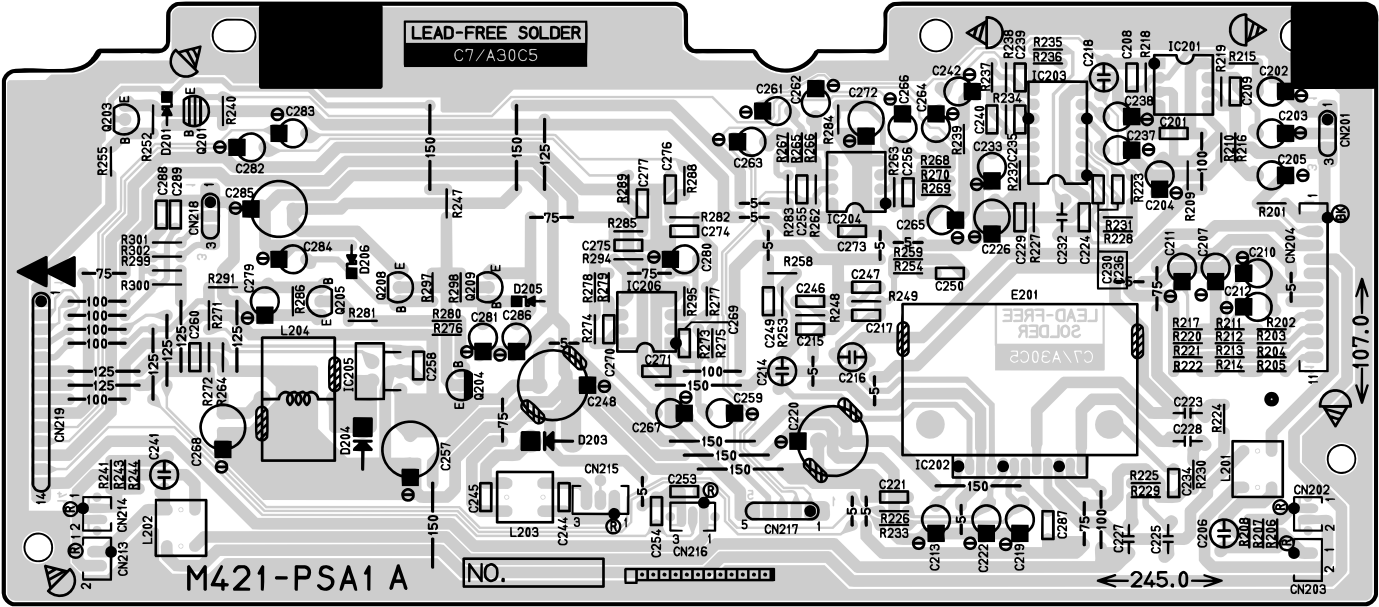
	LH17	LH14	LH13	LH12	LH11	LH10	LH9	
LL0	TRACK 1/L	SONG MEMORY	SONG/ USER	PIANO	GUITAR	CBRASS	SYNTH- LEAD	
LL1	TRACK 2/R	PIANO (MUSIC LIBRARY)	CARD	E.PIANO	BASS	REED	DSYNTH- PAD	
LL2	AUTO HARMONIZE	VARIOUS	FOR PIANO	ORGAN	STRINGS	PIPE	GM TONES	

PRINTED CIRCUIT BOARDS

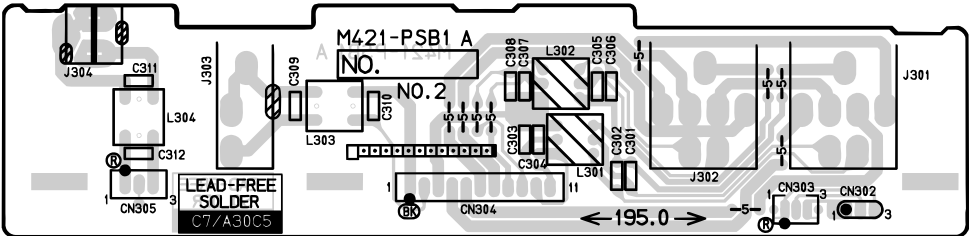
MAIN PCB M421-MDA1



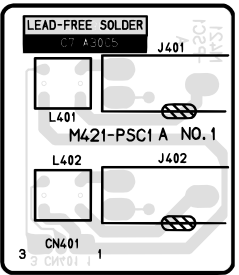
SUB PCB M421-PSA1



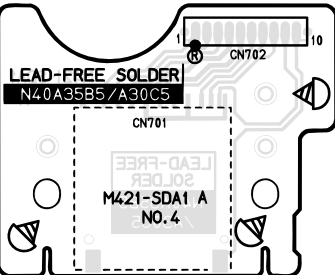
JACK PCB M421-PSB1



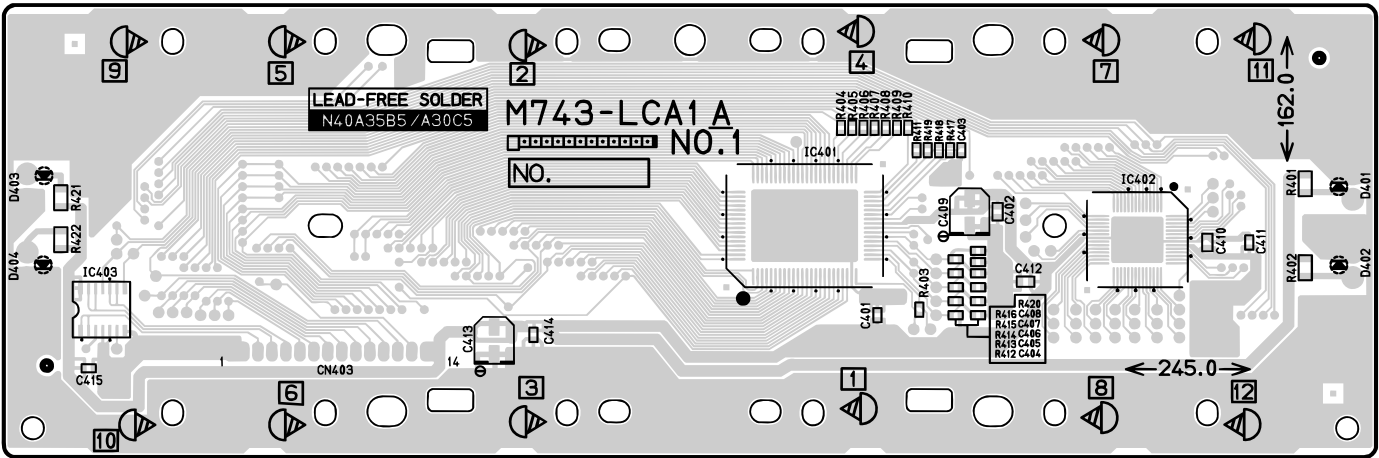
JACK PCB M421-PSC1



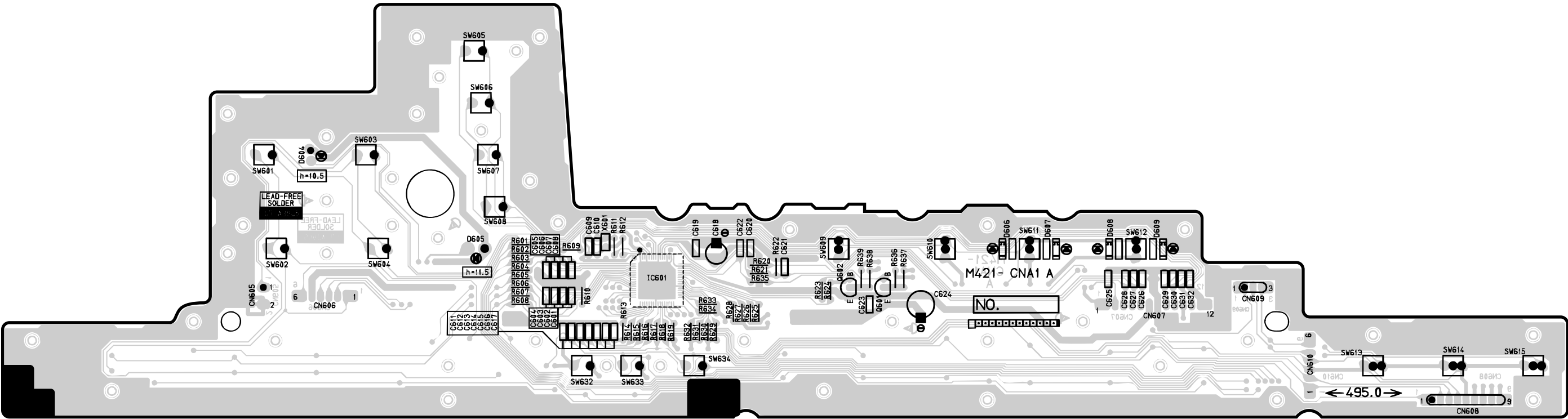
SD CARD PCB M421-SDA1



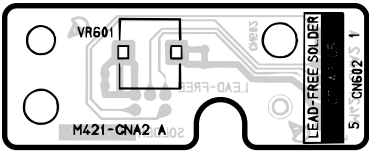
LCD PCB M743-LCA1



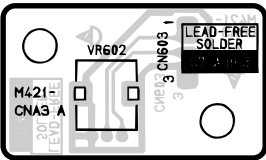
CONSOLE PCB M421-CNA1



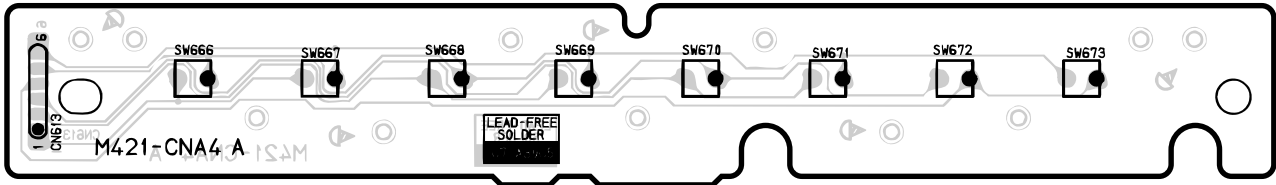
CONSOLE PCB M421-CNA2



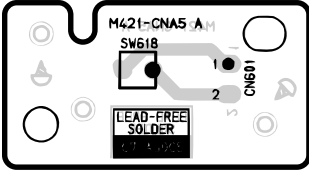
CONSOLE PCB M421-CNA3



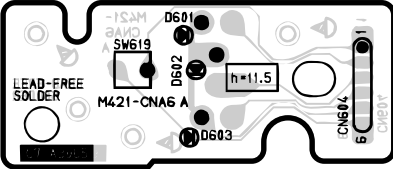
CONSOLE PCB M421-CNA4



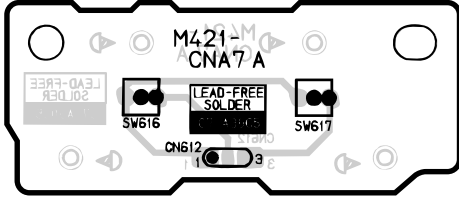
CONSOLE PCB M421-CNA5



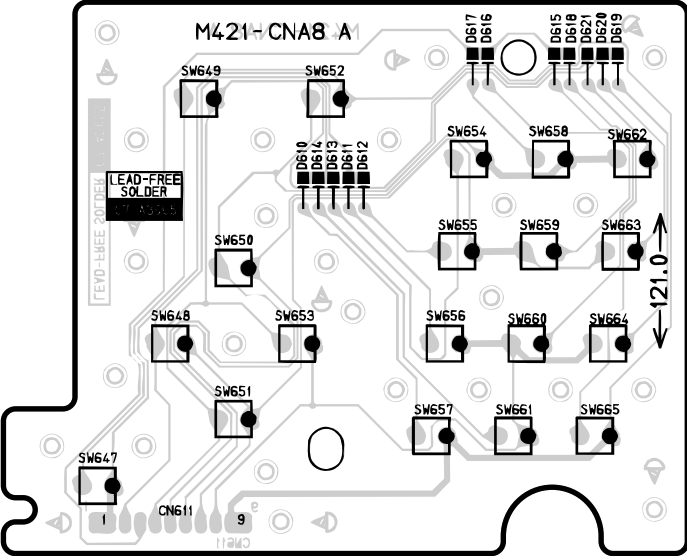
CONSOLE PCB M421-CNA6



CONSOLE PCB M421-CNA7

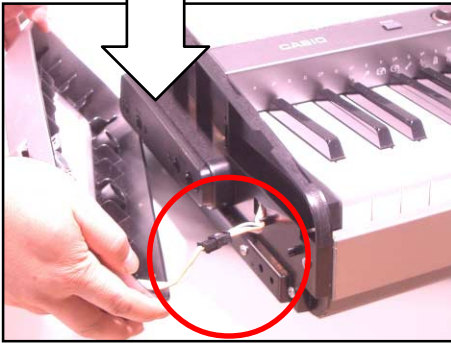
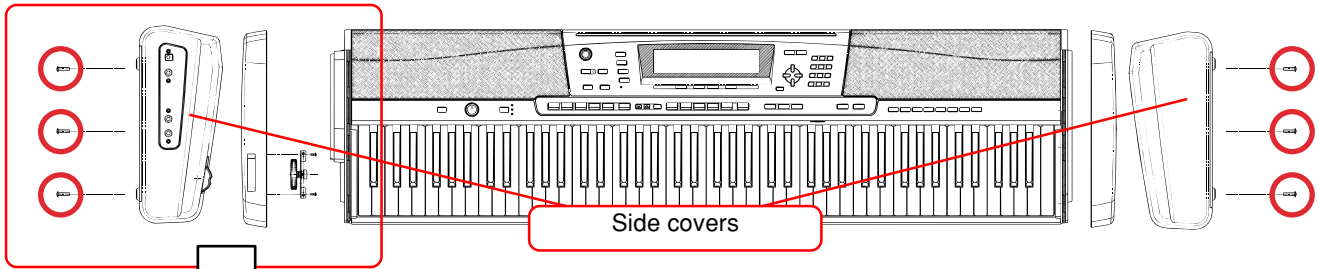


CONSOLE PCB M421-CNA8



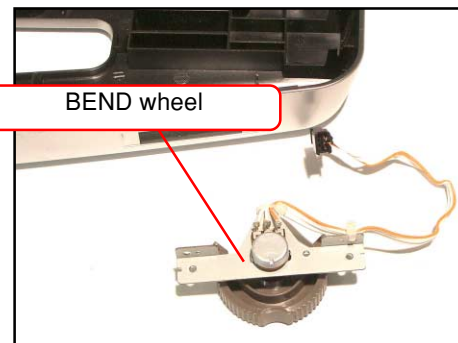
DISASSEMBLY

1. Remove the 6 screws and take off the left and right outer side covers.

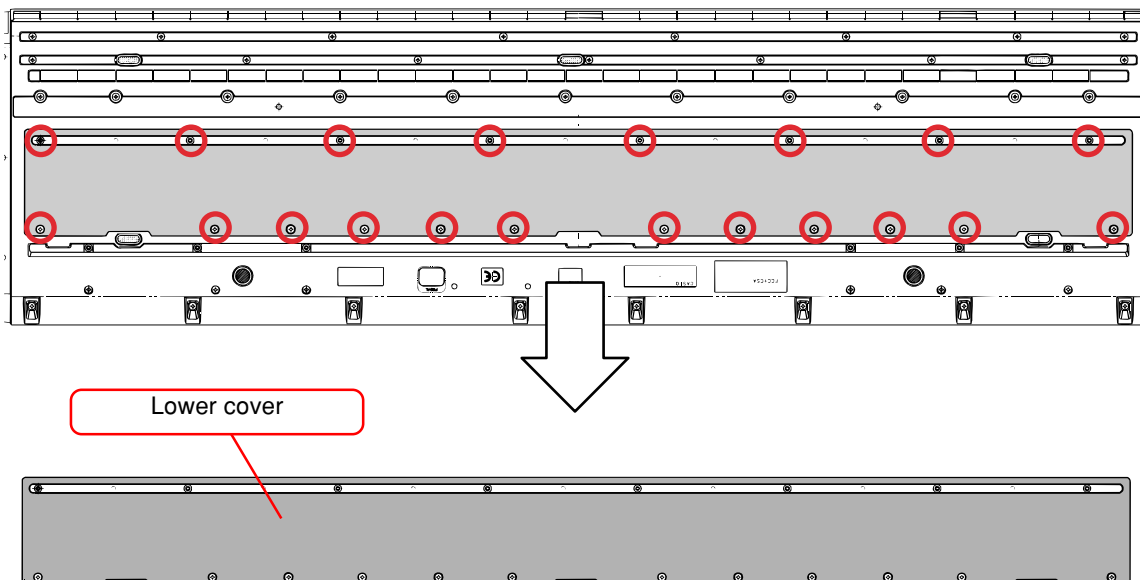


* The left side cover is connected by a cable.

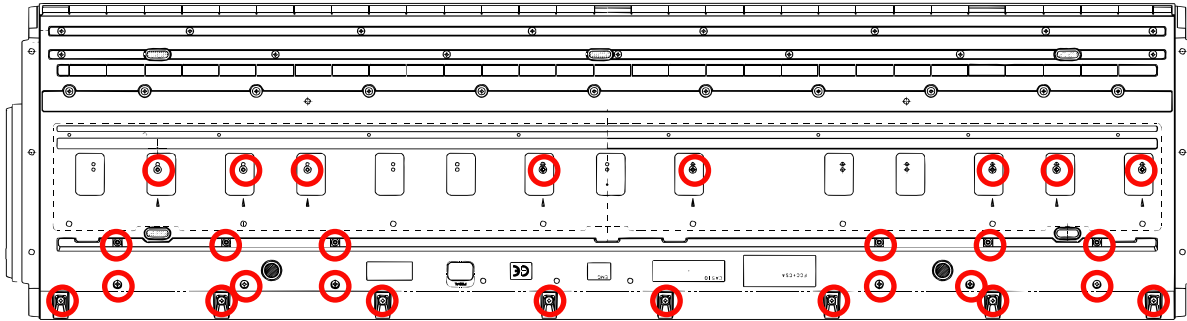
2. Remove 2 screws and the BEND wheel.



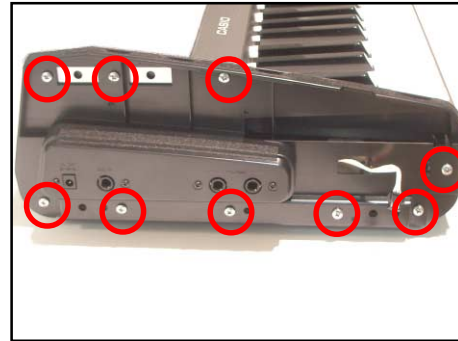
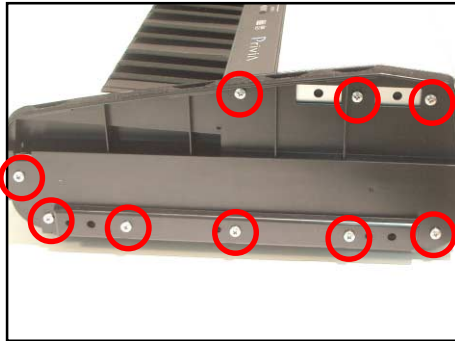
3. Remove 20 screws and the Lower cover.



4. Remove 28 screws on the bottom.

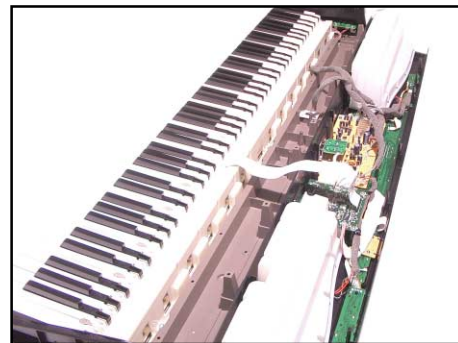
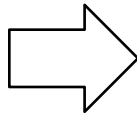
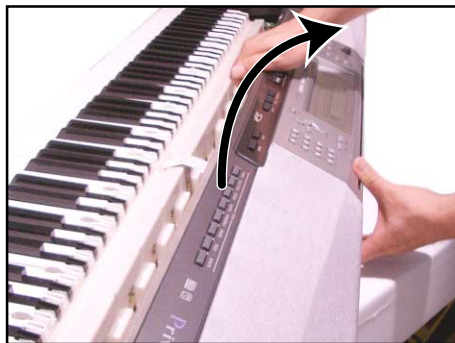


5. Remove 18 screws on the left and right side covers.

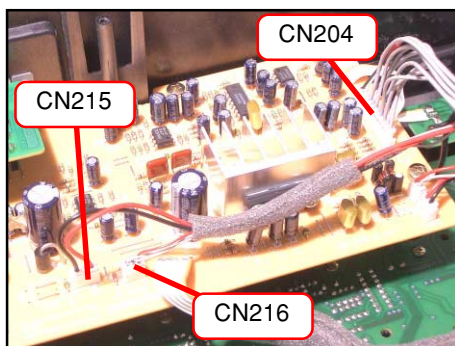


6. Remove the Panel Assy.

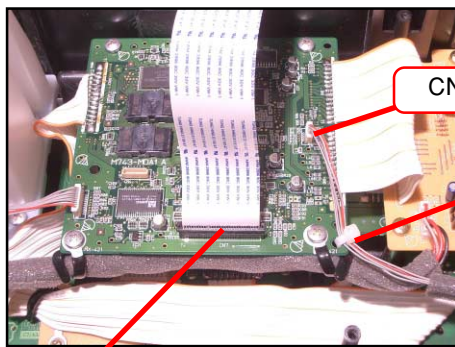
* The panel assembly is still connected by several cables.



7. Remove 3 connectors.



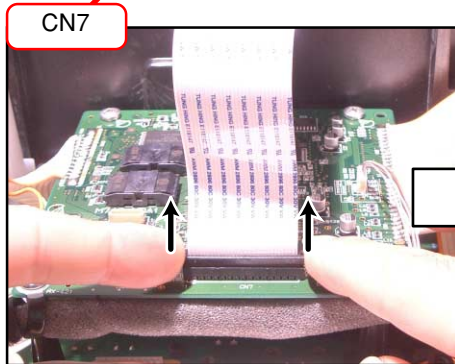
8. Cut the retaining band and remove the cable on the M421-MDA1 PWB.
9. Unlock connector CN7 on the M421-MDA1 PWB and disconnect the FPC.



CN3

Retaining band

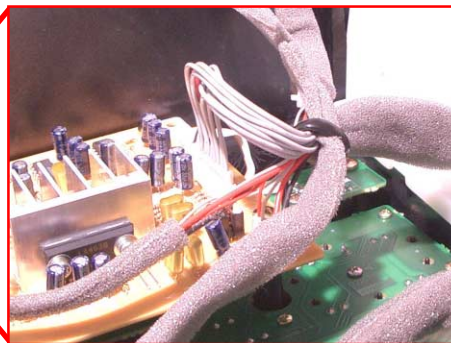
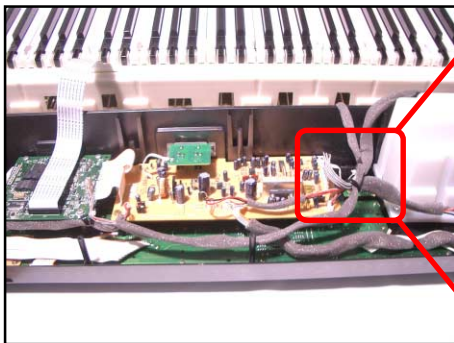
* Attach a new retaining band when assembling.



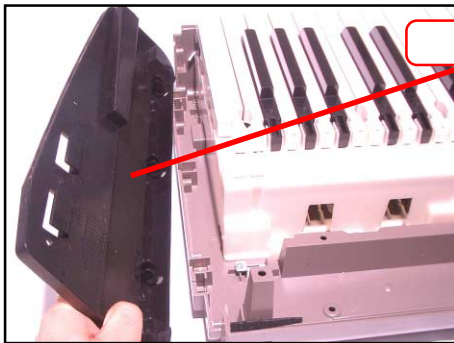
CN7



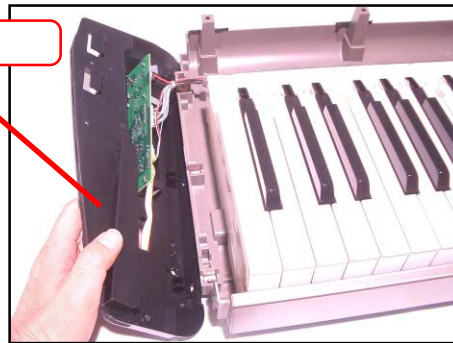
* Bundle the wires when assembling.



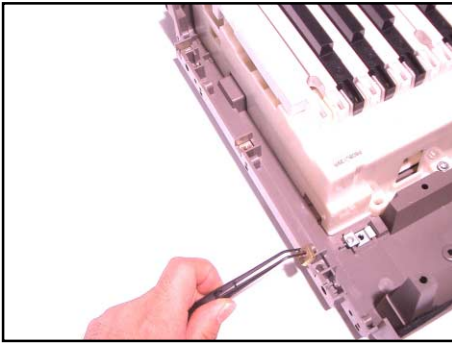
10. Remove the inside side cases.



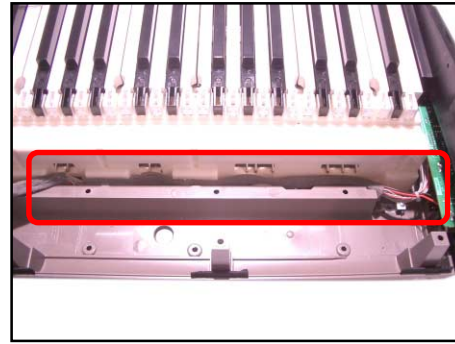
Side cases



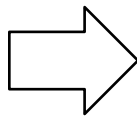
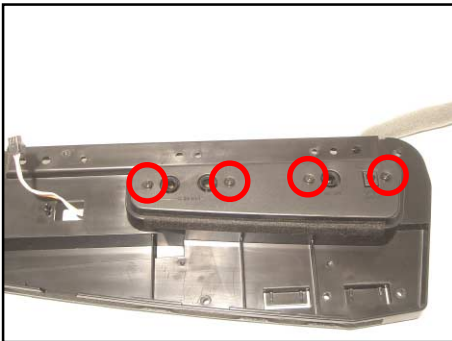
* When the inner side cover is removed, the nut is loose. Take care not to lose it.



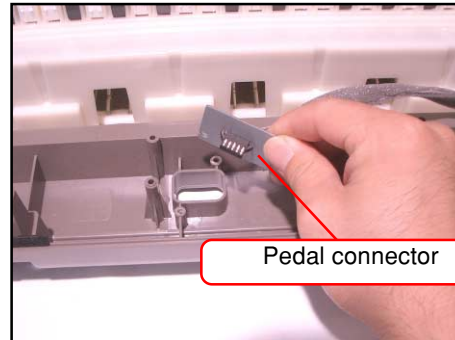
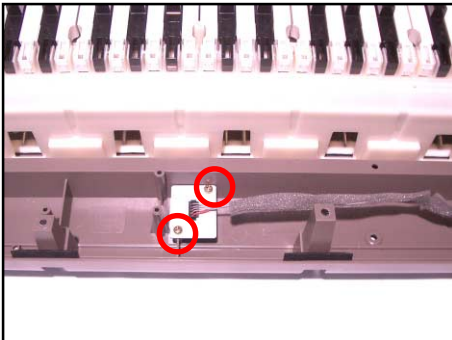
* When you fit the inner case on the left side, insert the M421-PSB1 PWB cable into the groove on the main unit.



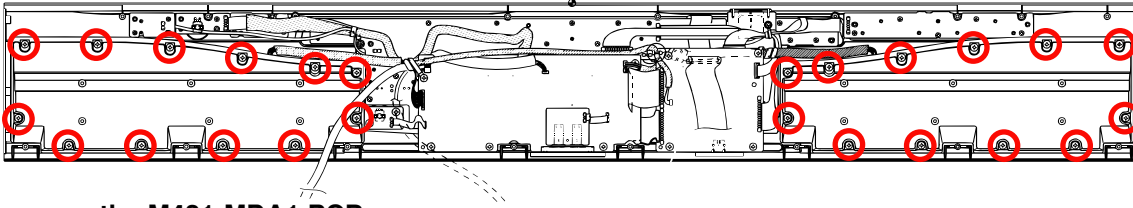
11. Remove 4 connectors and the M421-PSB1 PCB.



12. Remove 2 connectors and the Pedal connector.

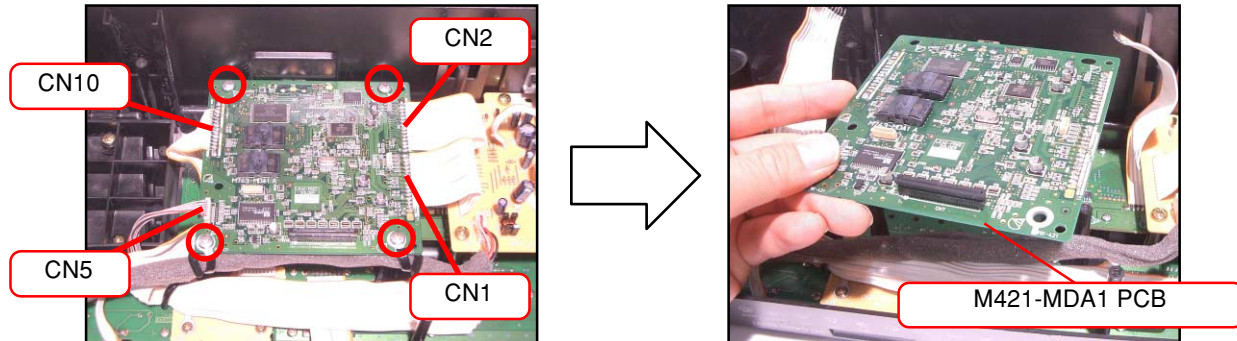


13. Remove 24 screws and 2 speaker boxes.



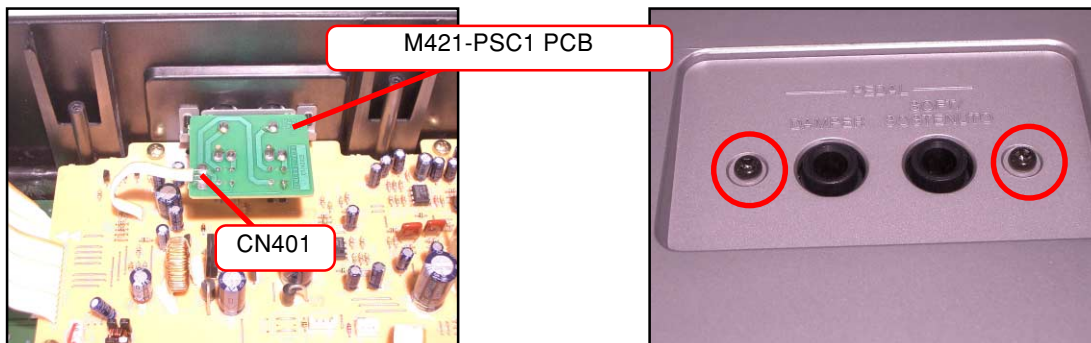
■ To remove the M421-MDA1 PCB

- 14. Unsolder to remove 3 cables.
- 15. Remove the Connector.
- 16. Remove 4 screws and the M421-MDA1 PCB.



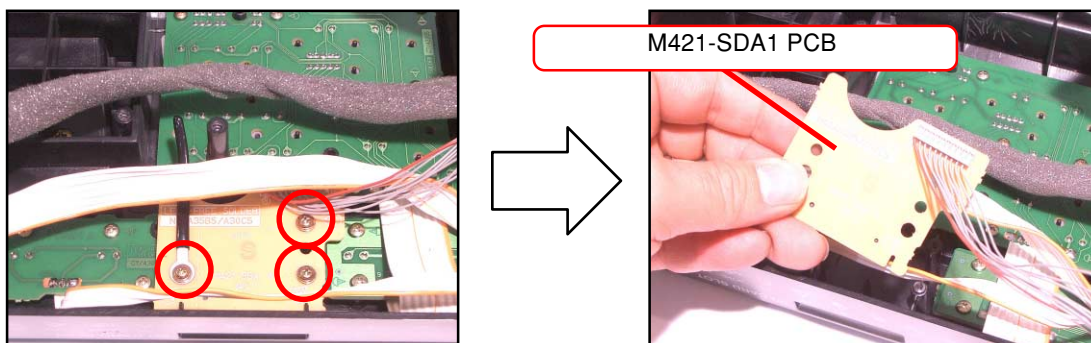
■ To remove the M421-PSC1 PCB

- 17. Unsolder to remove the cable.
- 18. Remove 2 screws and the M421-PSC1 PCB.

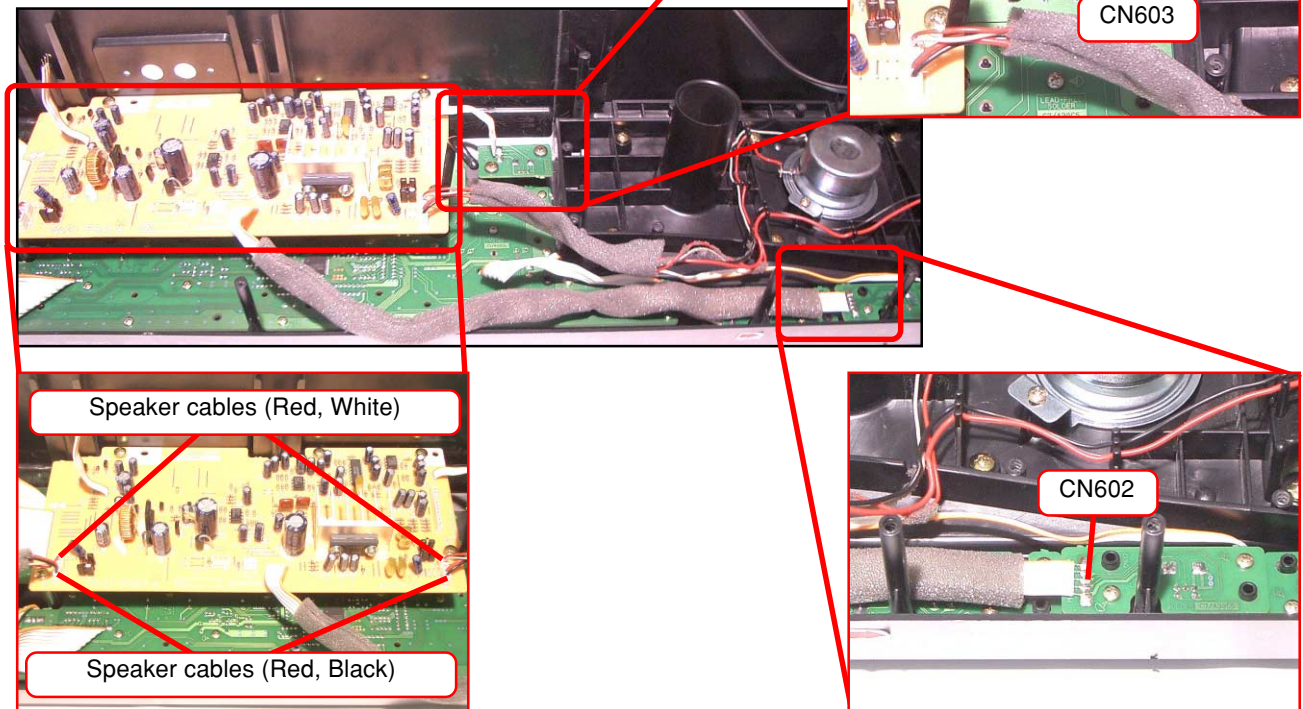


■ To remove the M421-SDA1 PCB

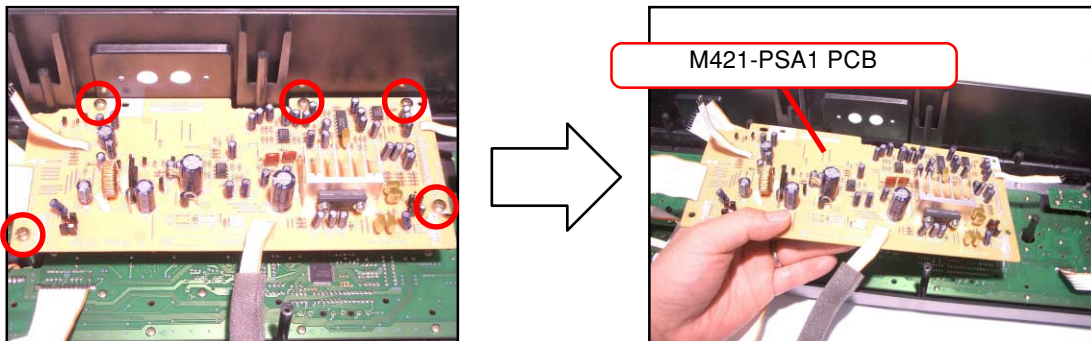
- 19. Remove 3 screws and the M421-SDA1 PCB.



- **To remove the M421-PSA1 PCB**
20. Unsolder to remove 2 cables.
 21. Remove the 4 speaker cables.



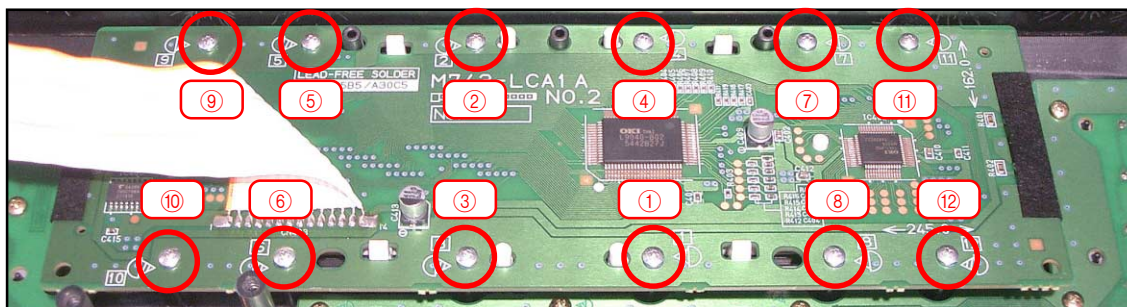
22. Remove 5 screws and the M421-PSA1 PCB.



■ **To remove the LCD unit**

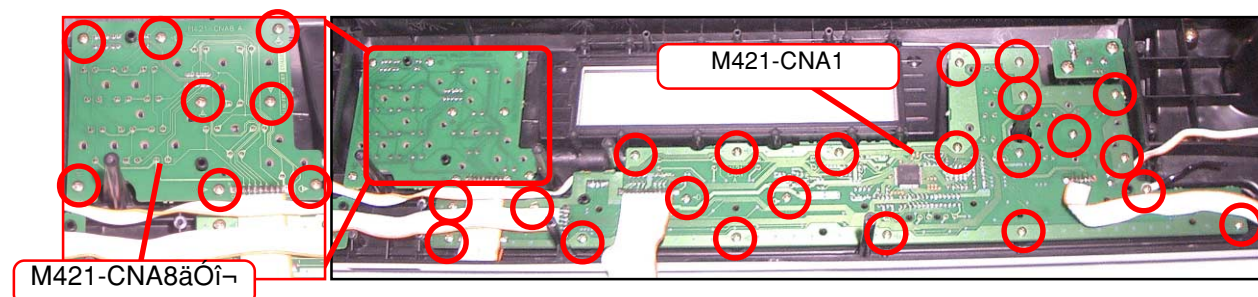
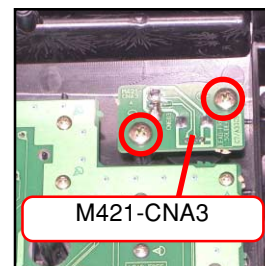
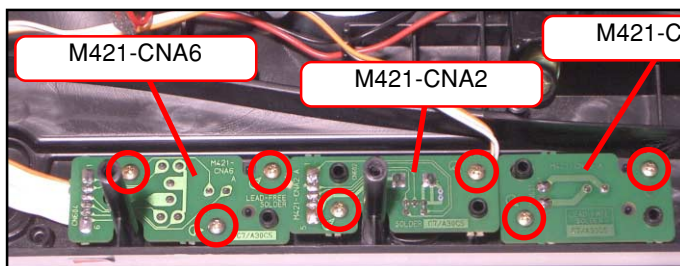
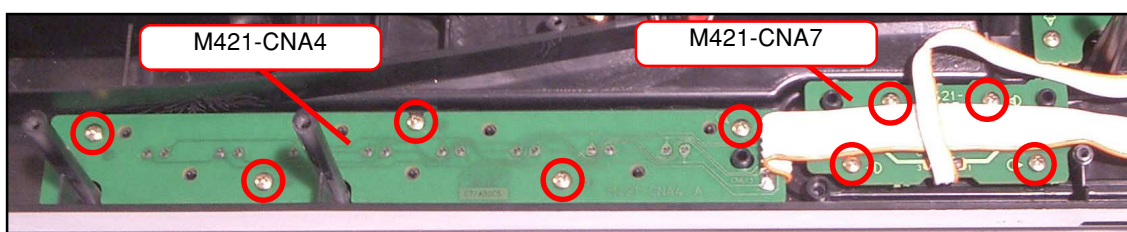
23. Remove 12 screws and the LCD unit.

Note: Fix the screws in the right order when assembling.



■ **To remove the M421-CNA1, CNA2, CNA3, CNA4, CNA5, CNA6, CNA7, CNA8**

24. Remove 48 screws and the M421-CNA1, CNA2, CNA3, CNA4, CNA5, CNA6, CNA7 and CNA8.

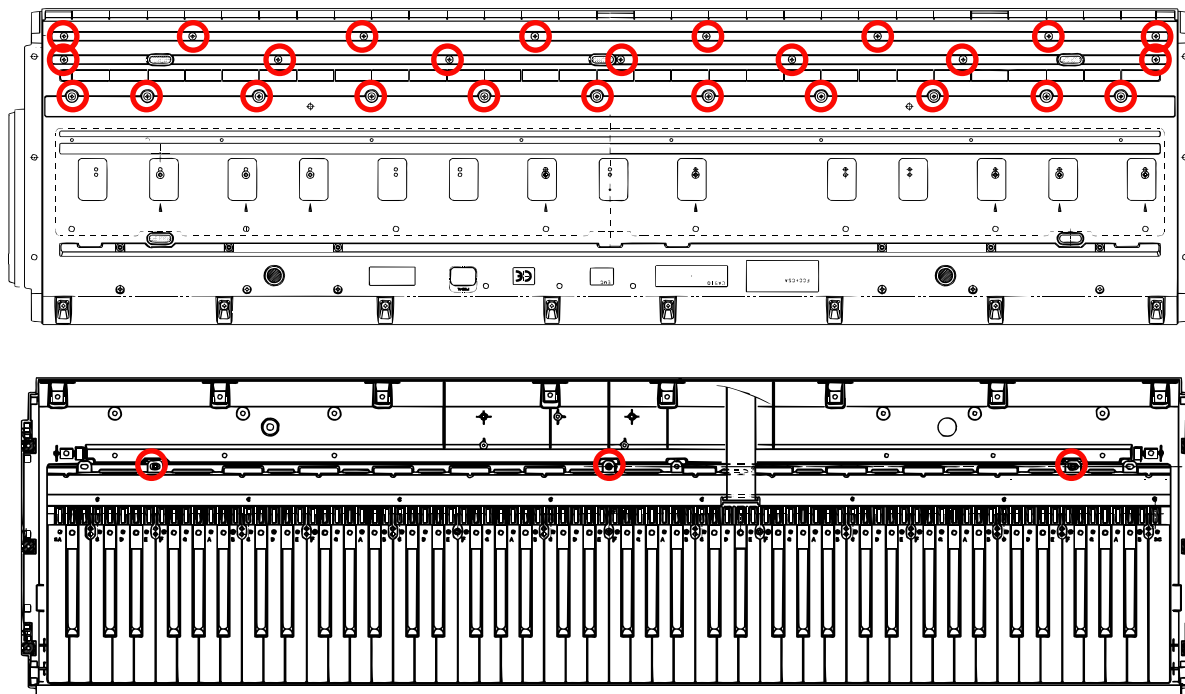


* M421-CNA2 and M421-CNA3 have volume controls. Remove the volume controls.

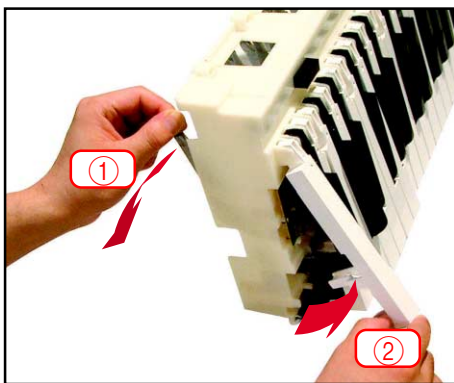


■ To remove the keyboard

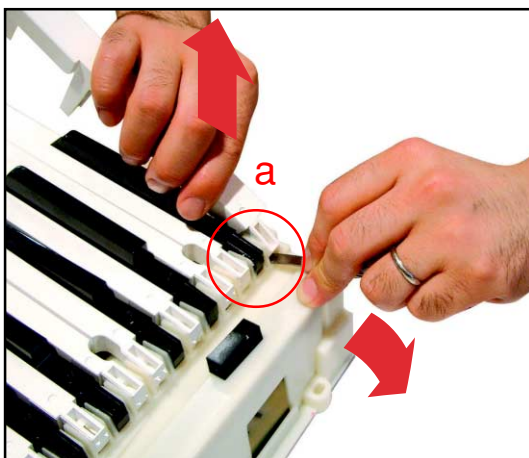
25. Remove 26 screws on the bottom.
26. Remove 3 screws on the surface.
27. Separate the case from the keyboard.



28. Pull the hammer (①), and then remove the key from the hammer (②).



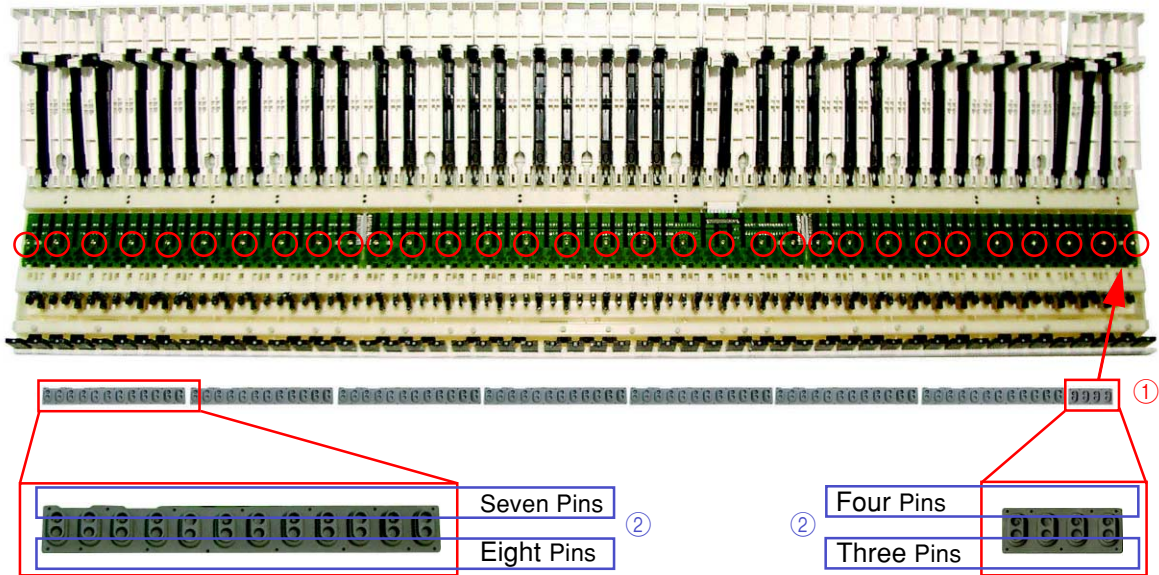
29. Insert the edge of the tweezers as shown in part a of the below figure to remove the key.



24. Remove eight rubber keys.
25. Remove 32 screws and the key PCB.

*Precautions when assembling the rubber keys

- ① The length of this only one rubber key is different.
- ② The numbers of pins on the upper and lower sides are different.
- ③ Insert the pins and fix them tightly.



DIAGNOSTIC PROGRAM

■ Initial Setting

1. Connect the AC adaptor.
2. Connect the Pedal.
3. “Main” volume: MAX
4. “Mic” volume: MAX

■ How to start diagnostic program

1. Press and hold “UPPER” and “DOWN” buttons.
2. “POWER” switch → “ON”
 - * The message “TEST_421” is appears LCD.
3. Release “UPPER” and “DOWN” buttons.

■ Diagnostic program

Message on LCD

1. CPU RAM check

- ① Press “SYNCRO” button.

CRAM_OK

2. DSP RAM check

- ① Press “VARIATION/FILL-IN2” button.

DRAM_OK

3. ROM check

- ① Press “INTRO/ENDING1” button.
 - * It takes about 10 minutes until ROM CHECK SUM is displayed.

ROM_OK

4. SR ROM Version check

- ① Press “AUTO HARMONIZE” button.
 - * The RON Version appears on the LCD.

5. ZX ROM1 Version check

- ① Press “SPLIT” button.
 - * The RON Version appears on the LCD.

6. ZX ROM2 Version check

- ① Press “LAYER” button.
 - * The RON Version appears on the LCD.

7. FLASH MEMORY check

- ① Press “INTRO/ENDING2” button.
 - * It takes about 5 minutes until ROM CHECK SUM is displayed.

FMC_OK

8. FLASH MEMORY READ SUM check

- ① Press “SONG” button.

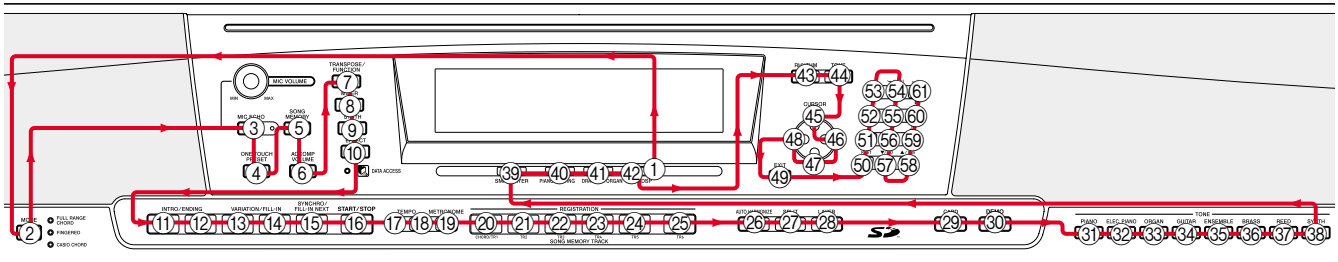
FMC_7A2B

Message on LCD

9. SWITCH check

- ① Press “DSP” button.
- ② Press the buttons in the following order.
 - * Confirmation sound sounds.
 - * The Button name appears on the LCD.
 - * A buzzer sounds if buttons are pressed in a wrong order, and “NG” appears on LCD.
 - * This check cannot be aborted in mid-course.

Button Name



Message on LCD

10. BENDER check

- ① Press “CHORD MODE” button. BEND_CHK
- ② “BENDER” Dial → “Turn up” 127BEND_CHK
- ③ “BENDER” Dial → “Turn down” 000BEND_CHK
- * Confirmation sound sounds.
- ④ “BENDER” Dial → “Turn center” 064BEND_CHK

11. Pedal check (If there is no Pedal, this check can be skipped)

- ① Press the “RHYTHM” button. PDLJ_CHK
- ② Press the “SOFT” pedal. PDLJ_ON
- * Confirmation sound sounds.
- ③ Press the “UPPER” button. DMPJ_CHK
- ④ Press the “DAMPER” pedal. DMPJ_ON
- * Confirmation sound sounds.
- ⑤ Press the “RIGHT” button. DMP3_CHK
- ⑥ Press the “DAMPER” pedal.(HALF ON) DMP3_HLF
- * Confirmation sound sounds.
- ⑦ Press the “DAMPER” button. DMP3_ON
- * Confirmation sound sounds.
- ⑧ Press the “DOWN” button. SOS3_CHK
- * Confirmation sound sounds.
- ⑨ Press the “SOSTENUTE” pedal. SOS3_ON
- * Confirmation sound sounds.
- ⑩ Press the “LEFT” button. SOF3_CHK
- ⑪ Press the “SOFT” pedal.(HALF ON) SOF3_ON
- * Confirmation sound sounds.

Message on LCD

12. LCD check

- ① Press “TEMPO UP” button.
 - * Turn on all segments.

13. LED check

- ① Press “TEMPO DOWN” button.
 - * LEDs illuminate in the following order.
All turn on → Echo → Full Range → Fingered → CASIO Chord → Data Access → Drawbar → DSP

14. CARD check

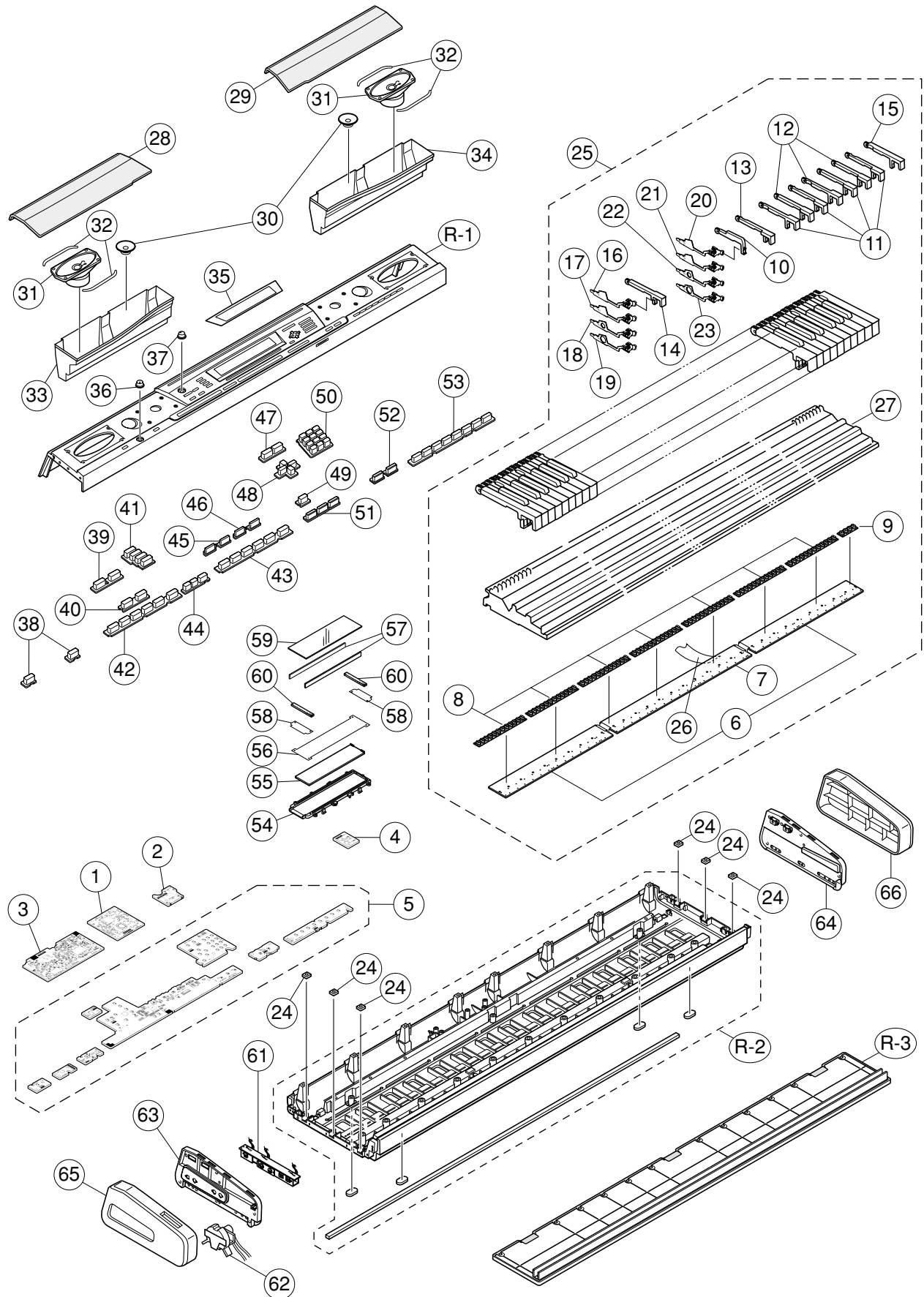
- ① Inset the SD card.
- ② Press “-” button.
- ③ It takes about 3 minutes until “CARD_OK” is displayed.
- ④ Remove the SD card.

SDC_CHK
CARD_OK

15. DIAGNOSTIC PROGRAM IS FINISHED

- ① Press “EXIT” button.
 - * Exit to normal operation mode.

EXPLODED VIEW



PARTS LIST

PX-410R PX-575R (For US)

Notes: This parts list does not include the cosmetic parts, which parts are marked with item No. "R-X" in the exploded view.

Contact our spare parts department if you need these parts for refurbish.

1. Prices and specifications are subject to change without prior notice.
2. As for spare parts order and supply, refer to the "GUIDEBOOK for Spare parts Supply", published separately.
3. The numbers in item column correspond to the same numbers in drawing.

N	Item	Parts code	Parts Name	Specification	QTY		Price Code	R	Remarks
					PX400R	PX575R			
Main PCB									
N	1	10249876	PCB ASSY/MAIN	TK-RJM507274*001	1	1		A	
	L13	10158809	COIL	DLP31SN221SL2L	1	1		X	
	IC7	10198126	MEMORY	CY62128DV30LL70ZAX	1	1		C	
	D2	23902058	DIODE	1SR154-400TE25	1	1		X	
	D1	10199220	DIODE	HZU4.3B2TRF-E	1	1		X	
	IC2	10197390	MEMORY	LP62S2048AX70LLTFQ	1	1		C	
	IC3	10195928	IC	UPD63200GS-E1-A	1	1		C	
	IC6	10197802	IC	TC74VHCT08AFT(EL.K	1	1		C	
	IC19,20	10197808	IC	TC7SZ08FU(TE85L.F)	2	2		X	
	IC11,13,17,27	10179619	IC	TC7SZ04FU(TE85L.F)	4	4		C	
	IC5	10197796	IC	TA75S393F(TE85L.F)	1	1		C	
	IC10,12,23,24	10197555	IC	TC7SZ14FU(TE85L.F)	4	4		C	
	IC14	10197809	IC	TC7WH123FU(TE12L.F	1	1		X	
	IC25	10240648	IC	TC74LCX08FT(EL.K)	1	1		C	
	IC16	10197798	IC	TC74LCX138FT(EL.K)	1	1		C	
	F7,8	10122975	NETWORK/R-C	EZASSB516BJ	2	2		B	
	F1-6, F9-14	10122976	NETWORK/R-C	EZASTB63ABJ	12	12		B	
	Q1	10153685	FET	2SJ346(TE85L.F)	1	1		C	
	Q2,3	69300298	TRANSISTOR	2SC4081T106R	2	2		X	
	Q5,Q6	10015566	TRANSISTOR	2SB1181TLR	2	2		C	
	Q4	10197813	TRANSISTOR	2SD2150T100R	1	1		C	
	X2	10211946	RESONATOR	SSM1200000F17F5FZ8	1	1		C	
	X1	10208977	RESONATOR	SSM1638400F16FSFZ8	1	1		C	
SD CARD PCB									
N	2	10249881	PCB ASSY/SDA1	TK-RJM507283*001	1	1		C	
Sub PCB PS1									
N	3	10249877	PCB ASSY/PSA1	TK-RJM507275*001	1	1		B	
	D203,204	10209003	DIODE	1N5822-F100	1	1		X	
	IC202	10203081	IC	LA4636-E	1	1		C	
	IC203	10171297	IC	M65850P	1	1		C	
	IC201, 204,206	10206677	IC	NJM2068D-D	3	3		C	
	IC205	10201503	IC	PQ1CG21H2FZH	1	1		C	
	L201,202 ,203	10206680	COIL	R2318-RB53856397NP	3	3		X	
	L204	10208248	COIL	R187-860400NP	1	1		X	
	D205	10085189	DIODE	DZ5.6BSBTA	1	1		C	
	D201	10137846	DIODE	DZ7.5BSBTA	1	1		C	
	D206	10132124	DIODE	DZ8.2BSBTA	1	1		C	
	Q201	10025042	TRANSISTOR	2SD1468STPR	1	1		C	
	Q204	10206675	TRANSISTOR	KTA1273-Y-AT/P	1	1		C	
	Q203,205, 208,209	10206673	TRANSISTOR	KTC3199-GR-AT/P	4	4		C	
Jack PCB									
N	4	10249878	PCB ASSY/PSC1	TK-RJM507276*001	1	1		C	
	J401,J402	10206815	CONNECTOR	JY-6314*01-030	2	2		C	
	L401,L402	10206680	COIL	R2318-RB53856397NP	2	2		C	

Notes: N- New parts
Q- Quantity used per unit
R- Rank

R -A: Essential
B: Stock recommended
C: Others
X: No stock recommended

N	Item	Parts code	Parts Name	Specification	QTY		Price Code	R	Remarks	
					PX400R	PX575R				
Console PCB										
N	5	10249879	PCB ASSY/CNA	TK-RJM507277*001	1	1		C	CNA1~CNA8	
	IC601	10159709	LSI	UPD65881GK-1019ETA	1	1		X		
	X601	10093909	RESONATOR	CSBLA1M00J58-B0	1	1		X		
N	D604	10251890	LED	LT2P71-81-M1	1	1		X		
N	D606,607,608,609	10131987	LED	T-3216SRD-PRV	4	4		X		
	D601-603,605	10171338	LED	LT2P71-81-M1-S06	4	4		X		
	VR601	10122556	VARIABLE R	RK09K12C0D1A	1	1		X		
	VR602	10122622	VARIABLE R	RK09D1130C49	1	1		X		
N	SW601-608,618,619,632-673	10245364	TACT SWITCH	THVV501BAA	40	40		X		
N	SW609-617	10247739	SWITCH	SKRGAKD010	9	9		X		
	D610-621	10079928	LED	1SS133TA	12	12				
Key board assy										
	6	10133488	PCB ASSY/KYA(KYA1,KYA3)	TK-RJM503365*001	1	1	BI	C	1set:2pcs.	
	D801-854,923-976	10079928	DIODE	1SS133TA	108	108	AA	X		
	7	10133482	PCB ASSY/KYB	TK-RJM503366*001	1	1	BC	C		
	D855-922	10079928	DIODE	1SS133TA	68	68	AA	X		
	CN803	35017294	CONNECTOR	30FMZ-ST	1	1	AF	X		
	8	10133656	RUBBER/CONTACT	RJM502920-001V01	7	7	AK	B		
	9	10133635	RUBBER/CONTACT	RJM502921-001V01	1	1	AG	B		
	10	10135317	BLACK KEY	RJM502797-001V01	36	36	AC	C		
	11	10135426	WHITE KEY/CEGB	RJM502862-001V01	7	7	AT	C		
	12	10135427	WHITE KEY/DFA	RJM502863-001V01	7	7	AQ	C		
	13	10135428	WHITE KEY/B	RJM502794-001V01	1	1	AG	C		
	14	10135429	WHITE KEY/SA	RJM502795-001V01	1	1	AJ	C		
	15	10135430	WHITE KEY/SC	RJM502796-001V01	1	1	AJ	C		
	16	10135435	HAMMER ASSY/W1	TK-RJM503155*001	13	13	AL	C		
	17	10135436	HAMMER ASSY/W2	TK-RJM503216*001	13	13	AL	C		
	18	10135437	HAMMER ASSY/W3	TK-RJM503217*001	13	13	AL	C		
	19	10135438	HAMMER ASSY/W4	TK-RJM503218*001	13	13	AL	C		
	20	10135439	HAMMER ASSY/B1	TK-RJM503219*001	9	9	AK	C		
	21	10135440	HAMMER ASSY/B2	TK-RJM503220*001	9	9	AK	C		
	22	10135442	HAMMER ASSY/B3	TK-RJM503221*001	9	9	AK	C		
	23	10135443	HAMMER ASSY/B4	TK-RJM503222*001	9	9	AK	C		
	24	10171298	NUT	RJM504318-001V01	6	6		X		
	25	10171845	KEY UNIT	TK-RJM504178*002	1	1		B		
	26	10027792	CABLE	N30385B1B05-UL2896	1	1		X		
	27	10164305	CHASSIS ASSY	TK-RJM504180*001	1	1		C		
Case unit										
N	28	10249873	COVER ASSY/SPEAKER/LEFT	TK-RJM507155*001	1	1		C		Small Big
N	29	10249874	COVER ASSY/SPEAKER/RIGHT	TK-RJM507156*001	1	1		C		
N	30	10229142	SPEAKER	C05JH61	2	2		B		
N	31	10229143	SPEAKER	C0816J06	2	2		B		
	32	10175762	PACKING	RJM504765-001V01	4	4		X		
	33	10175472	BOX ASSY/SPEAKER/LEFT	TK-RJM504741*001	1	1		X		
	34	10175475	BOX ASSY/SPEAKER/RIGHT	TK-RJM504742*001	1	1		X		
N	35	10238919	PLATE/DISPLAY	RJM506639-001V01	1	1		C		
	36	10216354	KNOB/ROTARY	RJM502503-015V02	1	1		C		
N	37	10248733	KNOB/ROTARY	RJM502394-010V02	1	1		C		
N	38	10247720	RUBBER/KEY/A	RJM506640-001V01	2	2		C		
N	39	10247721	RUBBER/KEY/B	RJM506641-001V01	1	1		C		

Notes: N- New parts
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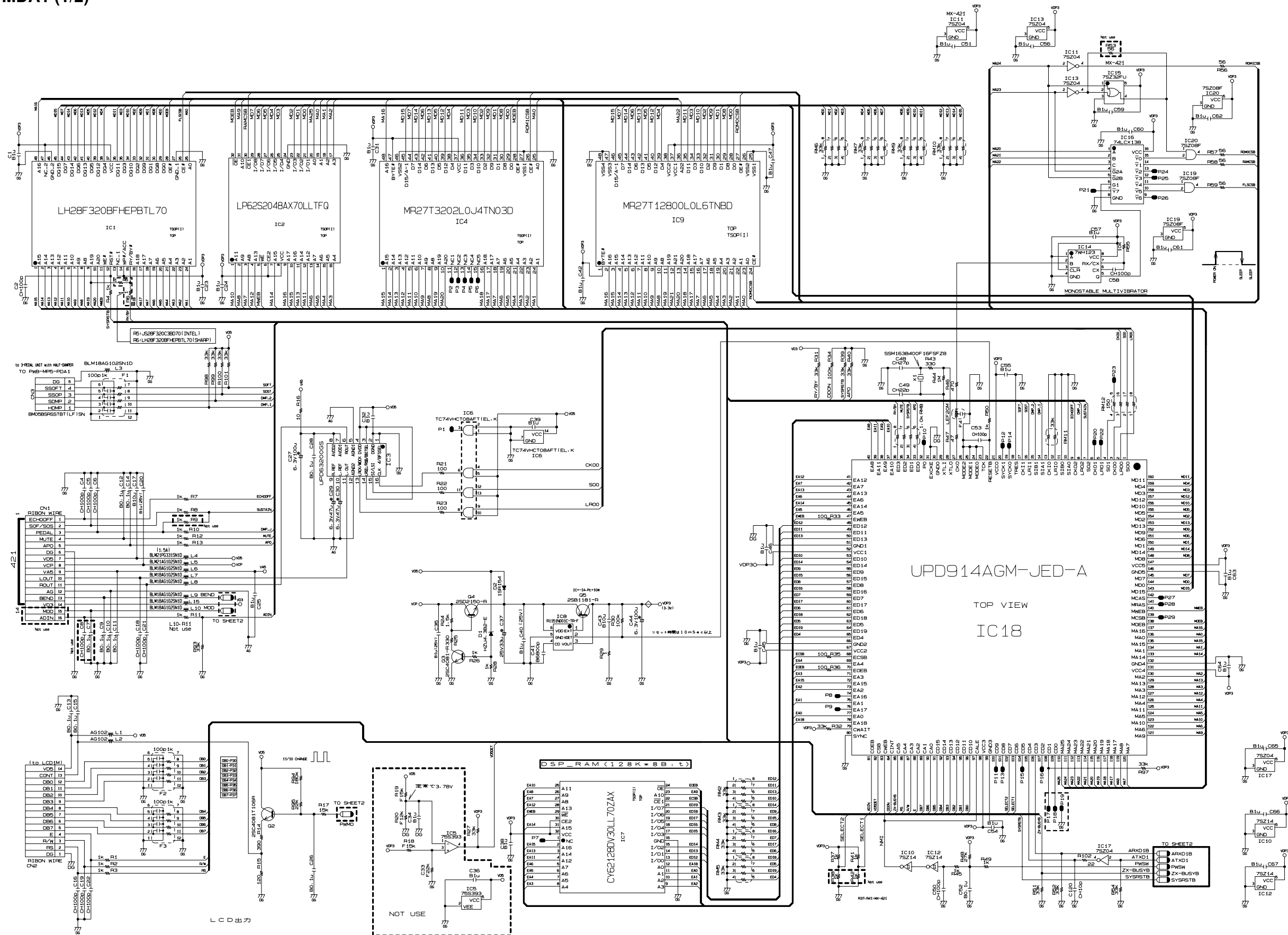
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N	41	10247723	RUBBER/KEY/D	RJM506643-001V01	1	1		C	
N	42	10247724	RUBBER/KEY/E	RJM506644-001V01	1	1		C	
N	43	10247725	RUBBER/KEY/E	RJM506644-002V01	1	1		C	
N	44	10247726	RUBBER/KEY/F	RJM506645-001V01	1	1		C	
N	45	10247727	RUBBER/KEY/G	RJM506646-001V01	1	1		C	
N	46	10247728	RUBBER/KEY/G	RJM506646-002V01	1	1		C	
N	47	10247729	RUBBER/KEY/H	RJM506647-001V01	1	1		C	
N	48	10247730	RUBBER/KEY/J	RJM506648-001V01	1	1		C	
N	49	10247731	RUBBER/KEY/K	RJM506649-001V01	1	1		C	
N	50	10247732	RUBBER/KEY/L	RJM506650-001V01	1	1		C	
N	51	10247733	RUBBER/KEY/M	RJM506651-001V01	1	1		C	
N	52	10247734	RUBBER/KEY/N	RJM506652-001V01	1	1		C	
N	53	10247735	RUBBER/KEY/P	RJM506653-001V01	1	1		C	
N	54	10249875	BL ASSY	TK-RJM507198*002	1	1		C	
N	55	10244501	PLATE/BL	RJM506777-001V01	2	2		X	
N	56	10244703	FILM/BL	RJM506942-001V01	1	1		X	
N	57	10248658	CONNECTOR	RJM506848-001V01	2	2		X	
N	58	10244704	TOP PIECE	RJM506943-001V01	2	2		X	
N	59	10245684	LCD	TR6197N	1	1		C	
	60	10037738	SPONGE	M441167-1	2	2		X	
N	61	10249880	PCB ASSY/PSB1	TK-RJM507278*001	1	1		X	
	J304	10208247	CONNECTOR	DJ-0702B*019	1	1		X	
	J303	10206816	CONNECTOR	JY-6314*01-130	1	1		X	
	J301,J302	10171449	CONNECTOR	JY-6360*04-070	2	2		X	
	L301,L302	10206672	COIL	R2318-RB53856396NP	2	2		X	
	L303,L304	10206680	COIL	R2318-RB53856397NP	2	2		C	
N	62	10249871	BND ASSY	TK-RJM504468*004	1	1		C	
N	63	10247799	SIDE CASE/IL	RJM506634-001V01	1	1		C	
N	64	10247800	SIDE CASE/IR	RJM506635-001V01	1	1		C	
N	65	10247797	SIDECASE/L	RJM506632-001V01	1	1		C	
N	66	10247798	SIDE CASE/R	RJM506633-001V01	1	1		C	
REFURBISH									
N	R-1	10249872	PANEL ASSY	TK-RJM507154*001	1	0		B	
N	R-1	10251287	PANEL ASSY	TK-RJM507154*002	0	1		B	
N	R-2	10249870	CASE ASSY/LOWER	TK-RJM504466*003	1	1		C	
N	R-3	10249869	COVER ASSY/LOWER	TK-RJM504464*003	1	1		C	
ACCESSORY									
	-	10133504	PEDAL ASSY	TK-RJM503195*001	1	1	BN	C	
	-	10229891	AC ADAPTOR	AD-12UL-TC3(D)	1	1		C	120V
	-	10229890	AC ADAPTOR	AD-12FL-TC4(D)	1	0		C	230V
	-	10171271	STAND/MUSIC	RJM504312-001V01	1	1		C	
	-	10100792	CORD SET	INQ.1258(1)	1	0	AP	C	Korea type
	-	10045706	CORD SET	EC2NC-M001A	1	0	AM	C	Euro type
	-	10045707	CORD SET	BC2NC-M001A	1	0	BD	C	UK type
N	-	10258035	CD ROM	IDES50CDROMWL1B	1	1		C	
	-	10174512	DUST COVER	RJM504381-001V01	1	0		X	Except EU/US
SPARE PARTS FOR OPTIONAL STAND (CS-410P)									
		10249882	ACC-BAG-ASSY(MS56)	TK-RJM507191*001	1	1		C	

Notes: N- New parts
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R- Rank

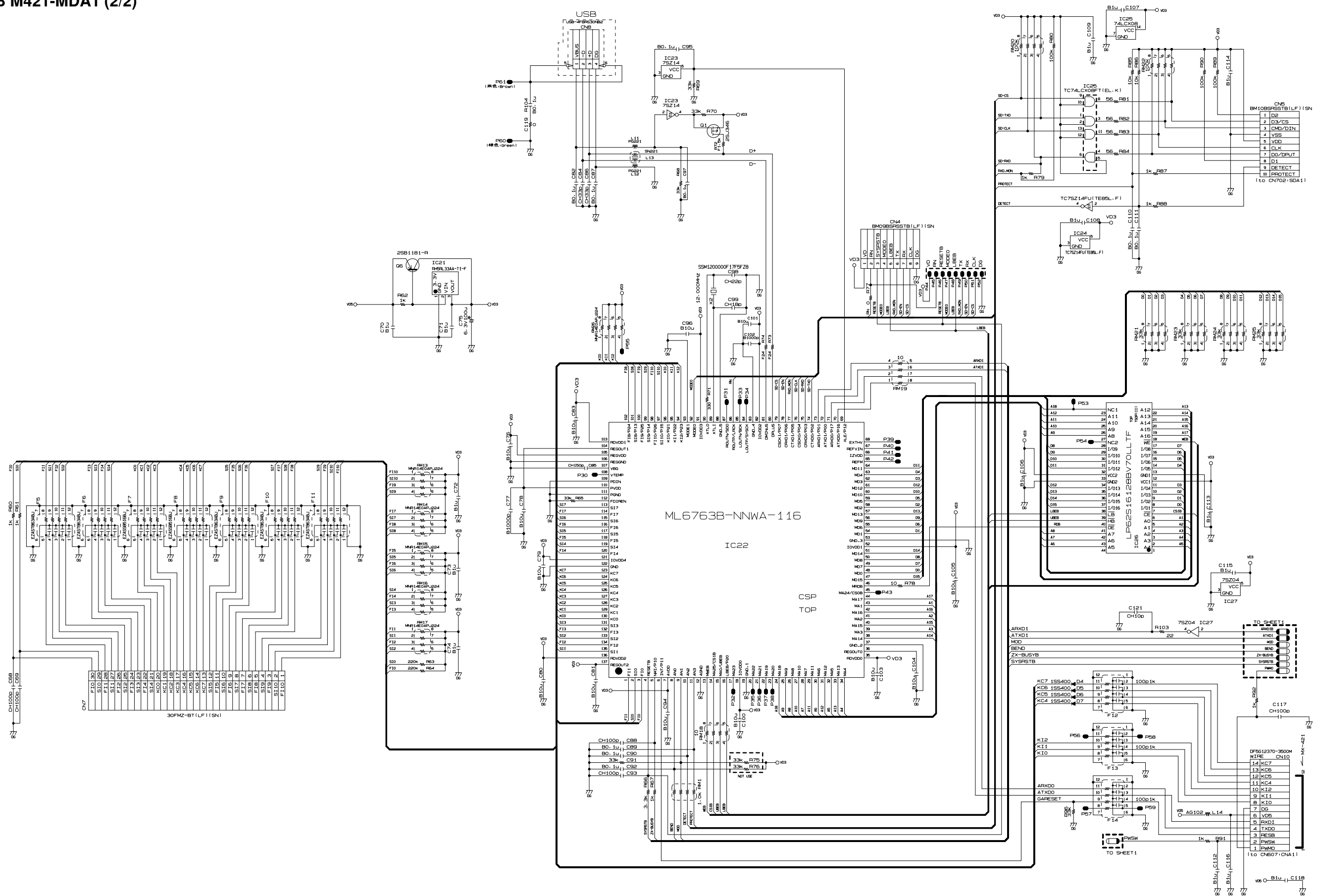
R-A: Essential
B: Stock recommended
C: Others
X: No stock recommended

SCHEMATIC DIAGRAMS

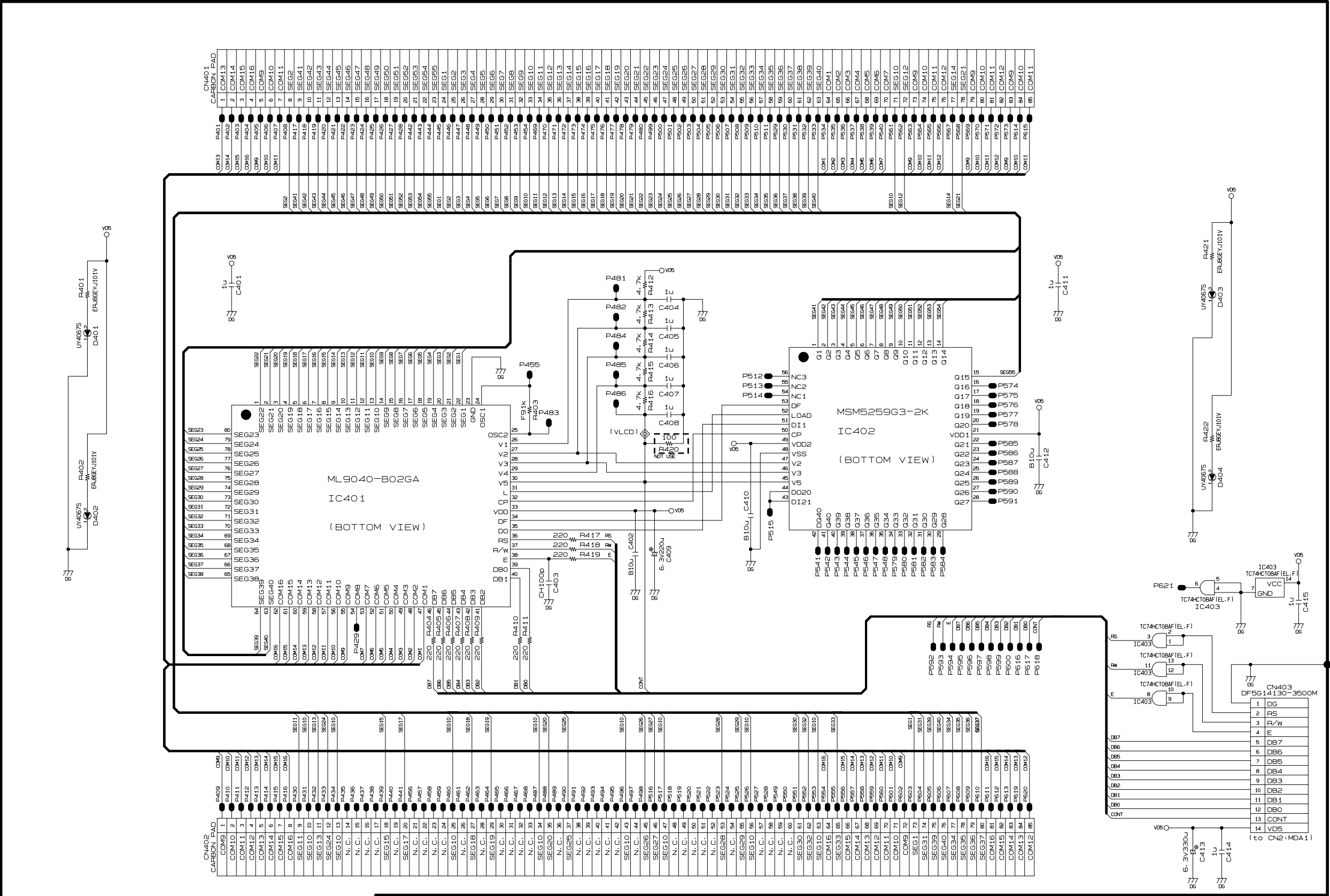
MAIN PCB M421-MDA1 (1/2)



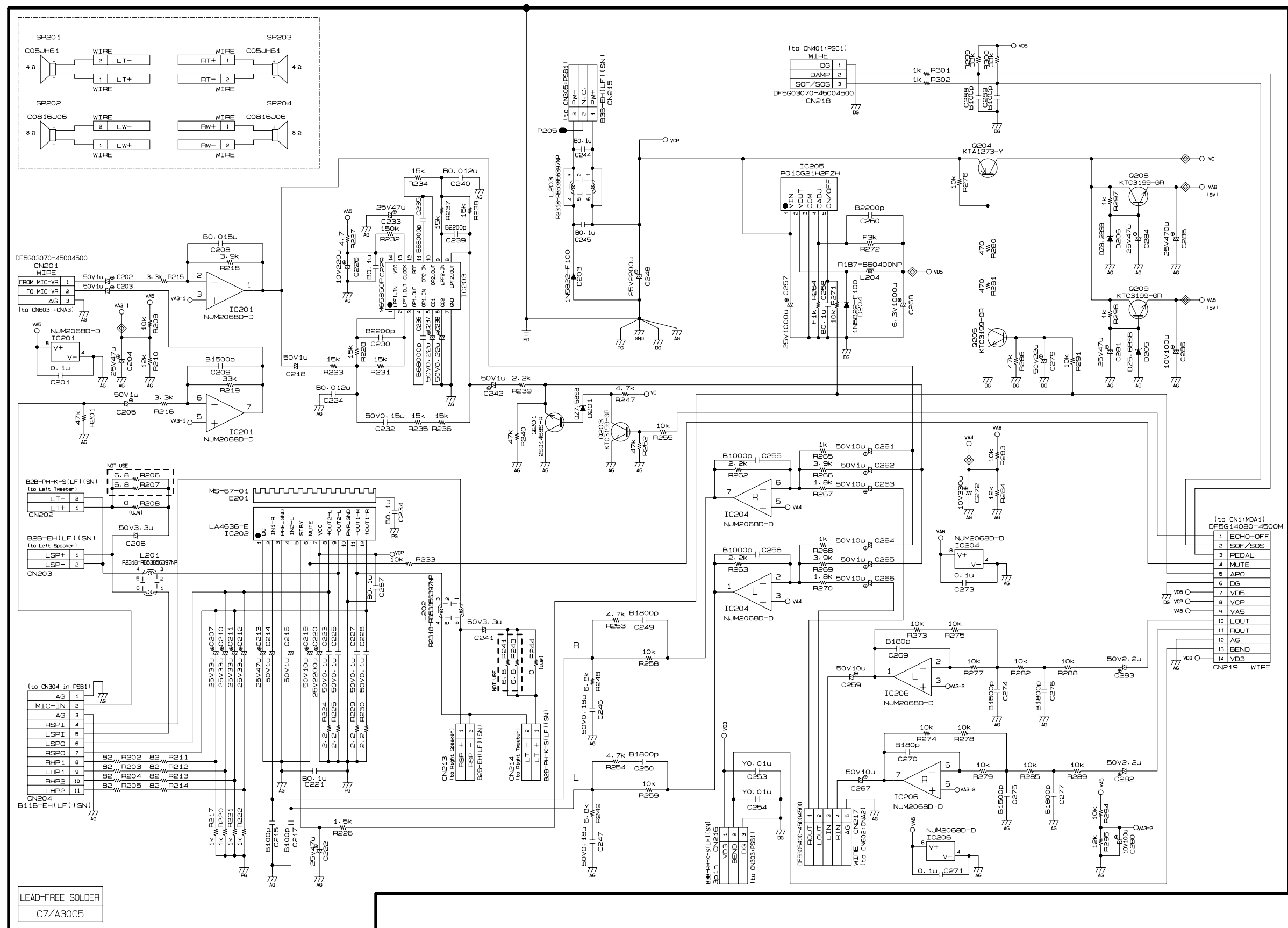
MAIN PCB M421-MDA1 (2/2)



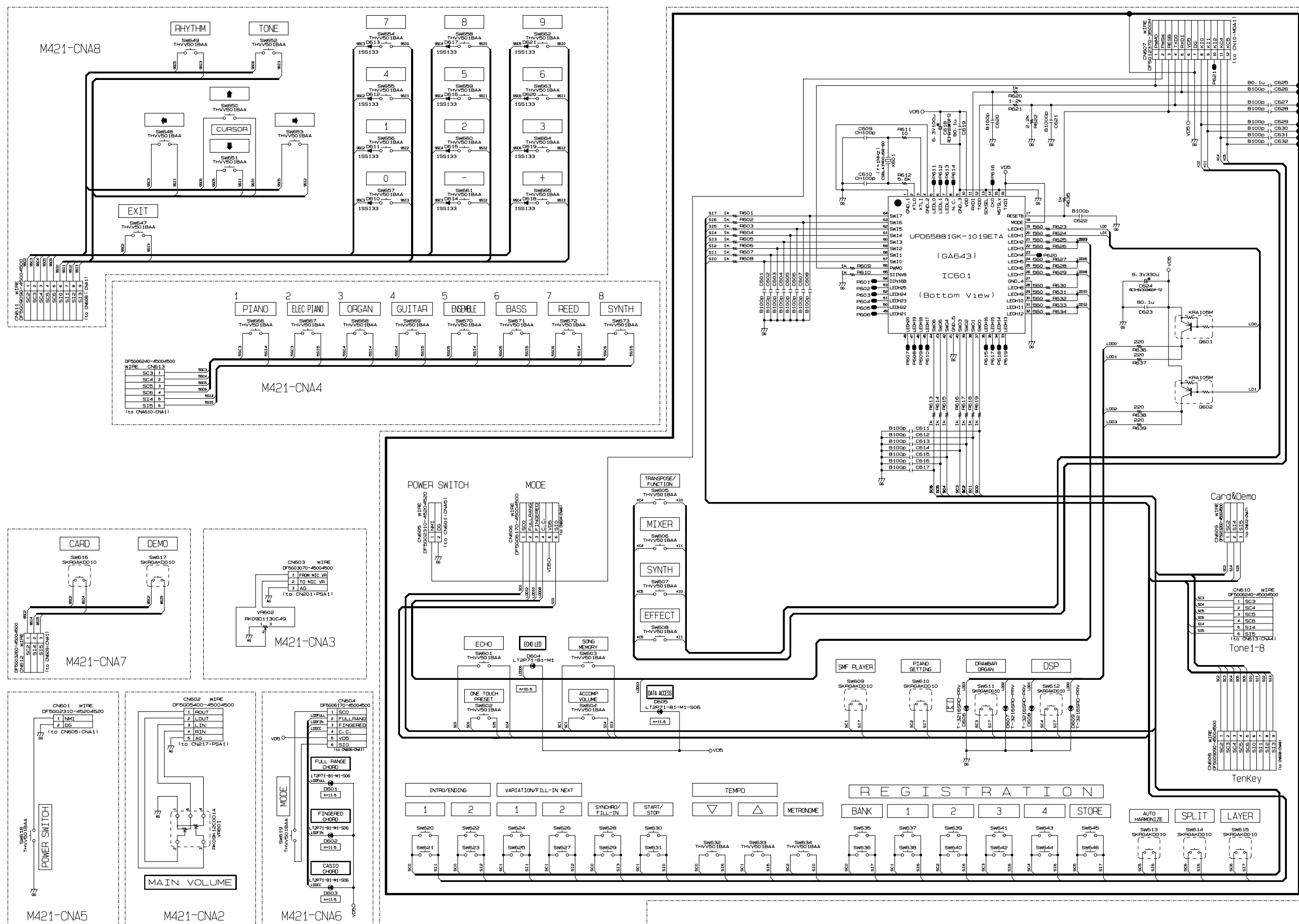
LCD PCB M421-LCA1



SUB PCB M421-PSA1

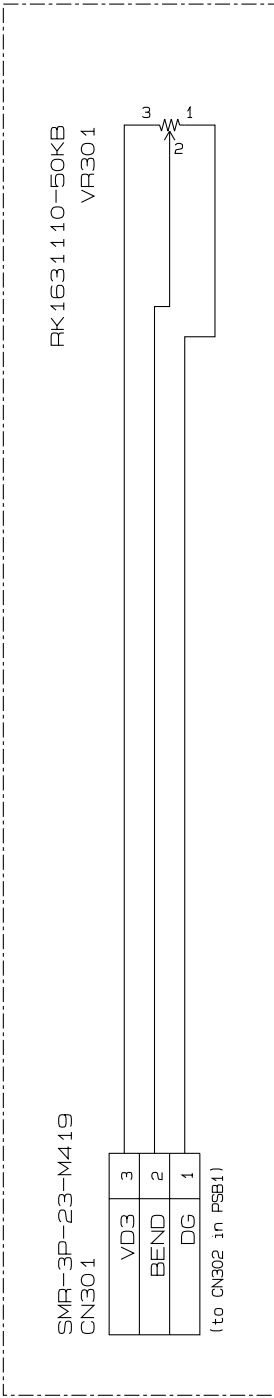


CONSOLE PCB M421-CNA1/CNA2/CNA3/CNA4/CNA5/CNA6/CNA7/CNA8

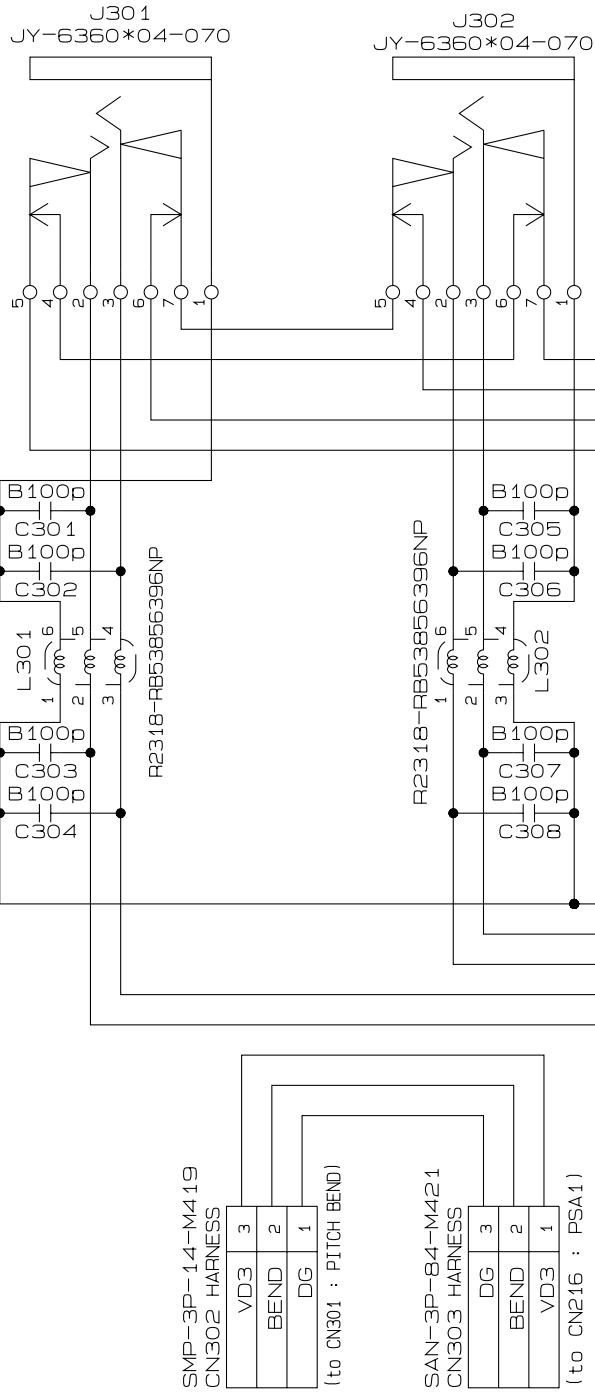


JACK PCB M421-PSB1

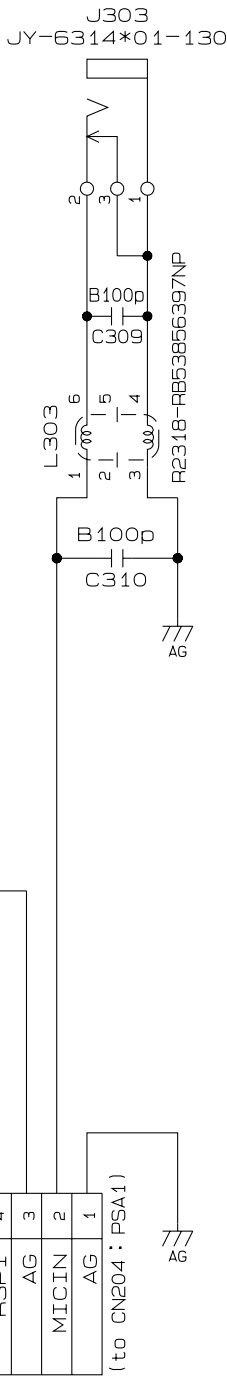
PITCH BEND



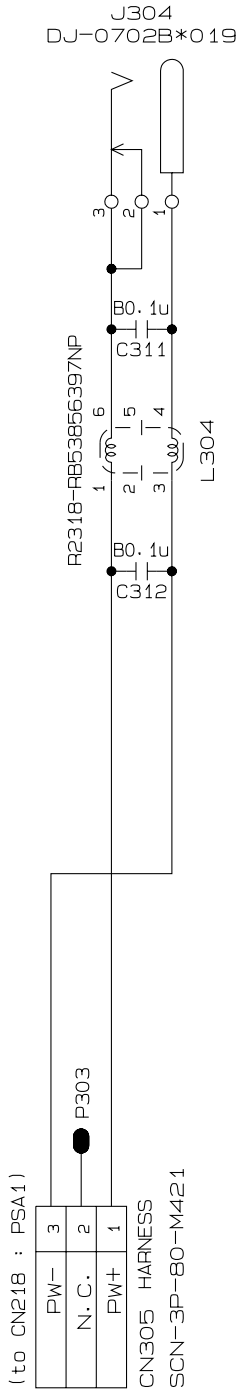
PHONES



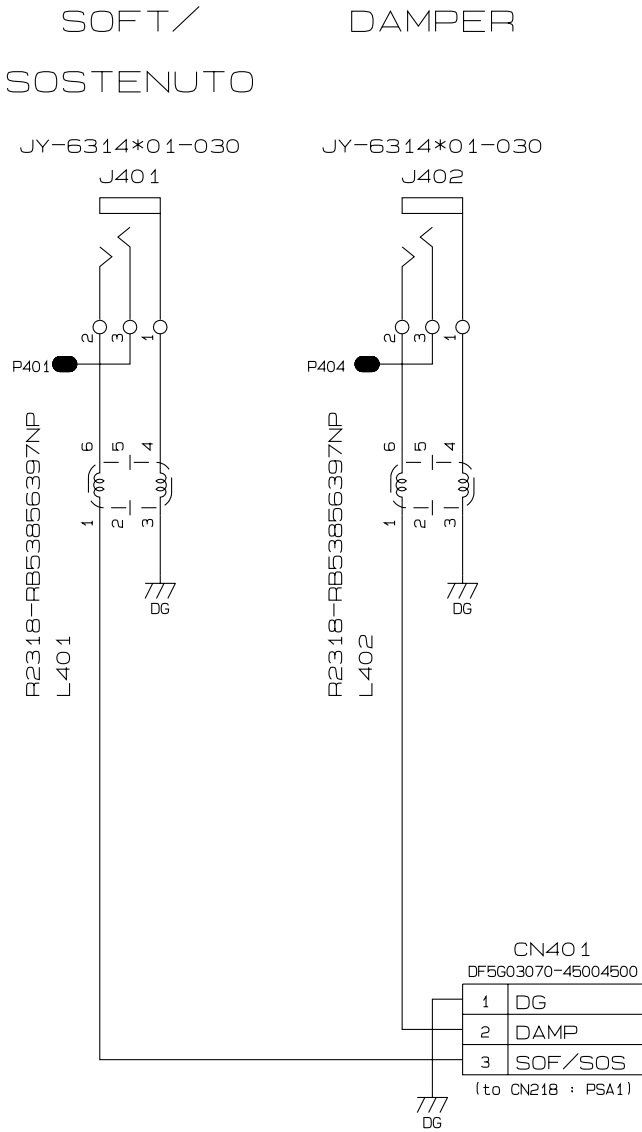
MIC IN



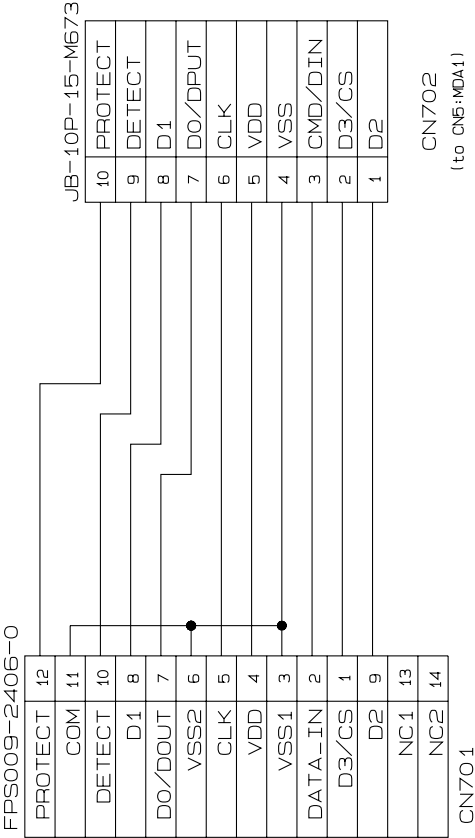
DC IN (12V)



JACK PCB M421-PSC1



SD CARD PCB M421-SDA1



M421-SDA1

Ver.1 : Sep. 2006

Addition of the BLOCK DIAGRAM (P3)

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